

## Inside Dope

By GEORGE  
F. TAUBENECK



Learn to live and laugh —  
thus delay your epitaph

**Stories of the Week**  
**Watch Your Waistline**  
**Better and Cheaper Stuff**  
**Free as the Sun**  
**Instead of Killing Each**  
**Other, We'll Kill Time**  
**How To Guide Your**  
**Grandson**

### Stories of the Week

Salesman Sam presented his credentials.

"I'm the best man in this business," he proved to a small manufacturer. "Give me a chance with your line and I'll up your volume plenty."

"Maybe so, maybe so," groaned the owner. "But anyone I hire has to start from the bottom. First you gotta be my partner."

Two acquaintances from Chicago met accidentally in Miami.

"Yasss, dearie," fat-catted the first woman, "I'm down here for five months. And you?"

"Three weeks."

"Three weeks? Whatsa matta? Ain't your husband working?"

### Watch Your Waistline!

Nearly every scientist one meets these days is guarding his health. Likewise, those businessmen who have access to research laboratories, and have glimpsed what's going on therein. Why are they watching their waists, taking their vitamin pills, etc? They want to live to see the 70 wonders of the World. (For 70 one might easily substitute 700, from what we have heard.)

You see, we are on the verge of scientific crash-throughs which stagger the imagination. Within the next dozen years our whole life, as we know it today, could be vastly different. And infinitely more exciting.

Take that matter of health, itself. Any man reasonably young, who does survive the next dozen years stands a pretty fair chance to reach 100. In fact, some medical scientists foresee a lifespan of 150 as being normal for humans after the great killer diseases have been eradicated.

We are well on the way toward that goal. Go down the list of diseases which knocked off our ancestors—typhoid, plague, tuberculosis, malaria, smallpox, diabetes—all are under control now. Looks like we have dread polio licked also. It prob-

(Continued on Page 12, Col. 1)

## Tremendous Growth Possibilities Of Commercial Refrigeration Based on 'Leisure' Foods

Until fairly recently commercial refrigeration has been a nice, quiet, comfortable business. In the main it has been dominated by relatively middle-size firms which specialized on such refrigerated products as:

Walk-in coolers  
Reach-in coolers  
Glassed-in food display cases  
Open-front frozen food cases  
Milk coolers and dairy refrigerators  
Water and beverage coolers  
Ice-cube-makers for bars, restaurants, hotels, and clubs  
Ice cream cabinets and soda fountains

Miscellaneous items like florist and pharmaceutical refrigerators, dehumidifiers, refrigerated trucks, vending machines, and special applications.

With the exception of the seventh item (automatic ice  
(Concluded on Page 18)

## Typhoon Unveils Low-Cost Heat Pump, '57 Line

TAMPA, Fla.—Typhoon Heat Pump Co. here, a division of Hupp Corp., has announced a new economy model "Prop-R-Temp" heat pump (for year-round heating and cooling) which, the company claims, can be centrally installed for as low as \$1,000.

The new complete line includes water-to-air, air-to-air, and water-to-water units for residential and commercial use, in sizes up to 40 tons.

It was unveiled at the firm's fifth annual heat pump school at the Tides hotel, St. Petersburg Beach, Fla. Over 100 dealers, sales representatives, and utility executives attended.

Harry W. Jobes, general manager, stated that all three types of package units are already in production.

(Concluded on Page 41, Col. 4)

## Silco Products To Move To Conditioned S.C. Plant, Begin Operations Soon

MINNEAPOLIS—Silco Products, Inc. will close down its plant here Feb. 15 and move its entire operation to a new, modern, air conditioned plant at Fountain Inn, S. C., George E. Cook, president, announced recently.

"By moving the factory by departments, we hope actually to lose very little time and expect to be ready for full operation the early part of March," Cook stated.

"We know that there will be a period during our moving activity when we will be in no position to ship anything," he continued. "We are trying to make this as short and painless as possible. We have laid our plans accordingly by manufacturing ahead of schedule."

The move to Fountain Inn, an-

(Concluded on Back Page, Col. 4)

## ASHAE Local Airs Contractor Woes, Industry Problems

ATLANTA—Problems arising from conflicts among the different segments of the industry—consulting engineers, manufacturers' agents, jobbers, and contractors—are being aired at a series of programs currently conducted by the local chapter of the American Society of Heating & Air-Conditioning Engineers.

The series, which features the various industry segments in panel discussions, was developed by Edward W. Klein, Jr., chapter program chairman. Discussion is sparked by anonymous questions, submitted in advance, and controversy is welcomed.

It's anybody's guess what the meetings will accomplish. But Klein feels that "we might find a better way of living with the problems in the industry."

Among these problems, it has been noted, are dwindling profits (despite a high volume of business) and fierce price competition.

At a meeting featuring manufacturers' agents, two areas of conflict were brought out: between the agents and consulting engineers, and between agents and jobbers.

(Concluded on Back Page, Col. 2)

### Offers Free Income Tax Aid With Major Appliance

MOULTRIE, Ga.—Dixie TV & Radio Service came up with a timely promotion. It offered to figure anyone's income tax with the purchase of a major appliance.

An ad being carried over radio station WMTM says:

"Dixie TV & Radio Service is offering free tax consultation and income tax form figuring with the purchase of any major appliance, such as freezers, washers, TV sets, and radios, between now and April 15."

## Both Boards OK Brunner Purchase by Dunham-Bush

### '56 Compressor Shipments Up 40% for 10 Mos.

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies used in air conditioning and refrigeration units were up almost 40% during the first 10 months of 1956, as compared with the same period of 1955, it is reported by Geo. S. Jones, Jr., managing director of the Air-Conditioning & Refrigeration Institute.

The figures, which do not include compressors used in household refrigerators, were compiled from reports made to ARI by manufacturers whose output is estimated to represent in excess of 90% of the industry, he said.

Actual shipments for the 10-  
(Concluded on Page 6, Col. 1)

WEST HARTFORD, Conn.—Agreement for the purchase of all assets of Brunner Mfg. Co. by Dunham-Bush, Inc. was approved recently by the boards of directors of both companies.

Stockholders of both firms will vote on the agreement March 6. If they approve, the sale will be closed on March 29.

The agreement provides for the assumption of all Brunner's liabilities and the issuance of 1/4 share of Dunham-Bush common stock and \$6 of new non-convertible 6% 20-year subordinated debentures of Dunham-Bush for each share of common stock of Brunner issued and outstanding at the closing date.

Under the agreement, Brunner Mfg. Co. of Utica, N. Y. will be operated as the Brunner Div. of Dunham-Bush, Inc., while Brunner's wholly-owned subsidiary, the Brunner Co. of Gainesville, Ga., will become a wholly-

(Concluded on Page 40, Col. 1)

## Sees Outdoor Egg Vendors Upping Sales

BLACKSBURG, Va. — Egg vending machines may not be uncommon within the next few years, says D. D. Bragg, associate extension poultry specialist at Virginia Polytechnic Institute.

That's one of the changes he predicts for the poultry and egg industry. He says the vending machines, with controlled temperature and humidity, might be located outside large stores for the customers' convenience and for Sunday sales, and even at roadside stands on heavily-traveled highways.

Bragg sees a "growing trend toward quality control of shell eggs through controlled pro-

(Concluded on Page 41, Col. 1)

## Servel Reduces Net Loss In '56

EVANSVILLE, Ind.—In its second year under new management, Servel, Inc. substantially reduced its operating loss, according to the annual report to stockholders.

The net loss of the company for the fiscal year ended Oct. 31, 1956, amounted to \$1,833,217, as compared with a net loss of \$4,047,292 for the 1955 fiscal year, and a net loss of \$8,157,766 for the 1954 fiscal year. The 1956 results are after inventory write-offs amounting to \$1,059,000.

Servel's net sales in 1956, according to Louis Ruthenberg, board chairman, and Duncan C. Menzies, president, totaled \$42,665,371, as compared with \$58,614,034 in 1955.

Sales of civilian products declined from \$32,240,847 in 1955

(Concluded on Page 41, Col. 1)

## BEHIND PAGE ONE . . .

### Solenoid Valve Selection

Ratings, Standardization, Testing  
May Simplify Service Problems..... 10

### Commercial Firm's Customer Services

Distributor Prepared To Select Market  
Site, Estimate Potential, Layout Store..... 14

### High Velocity Air Distribution

Methods of Simplifying Design, Installation... 17

### Incremental, Central System

Large Office Building Uses Combination  
System To Give All Tenants Individual Control 31

### Hermetic Compressor Design,

Development (2) ..... 32

### Builders Show Pictures

..... 36

### What . . . When . . . Where

..... 5

### Regular Features

Editorial..... 18 Current Literature..... 25

What's New.... 26 Government Contracts.... 40

Patents..... 42



## General Controls Acquires Chicago Manufacturer of Counting Devices

GLENDAL, Calif. — Shareholder approval has been obtained for the merging of Production Instrument Co., Chicago, manufacturer of mechanical and electric counting devices, with General Controls Co. here, it was jointly announced by William A. Ray, president of the automatic controls manufacturing firm, and Joseph F. Visin, president of the Chicago company.

The transaction involves the purchase of all assets of the counter manufacturer in return for an undisclosed amount of General Controls common stock.

"Production Instrument's 25-year record and excellent acceptance of its broad product line will permit us to operate this new activity as a separate division," Ray stated. "Further-

more, counting devices are compatible with the General Controls line of automatic industrial controls and will materially strengthen the combined operations in the field of automation."

It is planned to market the product line of the new division through the existing distribution pattern of Production Instrument Co. in conjunction with General Controls' 42 branch offices.

### Sutton Adds to Plant

WICHITA, Kan. — Construction is under way on an 18,000-sq. ft. addition to the O. A. Sutton Corp. warehouse facilities here. Officials said the new facility will be used for receiving incoming parts for air conditioning equipment production.

## Firm Cuts Private Brand Appliance Prices Up to 12%

MINNEAPOLIS — Expecting a "much sharper competitive" market this year, Gamble-Skogmo, Inc. cut retail prices as much as 12% on its private brand appliances, according to a company spokesman.

About 1,500 items have been added to the firm's lines. Among these is a 15-cu. ft. combination refrigerator-freezer to retail at \$399, it was further announced.

The company will replace its brand with the full line of Gibson air conditioners, it was explained. Prices on these units will also be competitive, comparing with prices on private brand merchandise. Margins of both dealer and company will be affected by these cuts, it was said, but "in the long run it should prove a profitable venture," the spokesman commented.

## May Underwrite Explanatory Brochure

## 9 Meet To Interest Detroit Youth In Conditioning, Refrigeration Careers

DETROIT — A first step in an effort to interest Detroit youths in air conditioning and refrigeration as a career was taken by an informal group of nine men representing all elements of the industry here recently.

They agreed to study the cost of producing a vocational guidance brochure telling of the opportunities offered by this industry. The brochure would be placed in the hands of all vocational guidance counsellors at the eighth and ninth grade levels in the city school system.

The action was taken after Carl Turnquist, head of the air conditioning and refrigeration department at Cass Technical High school, told the group that out of 3,400 students attending

at school, only 16 were studying refrigeration.

The most that ever took the course was 43, and this number has been dwindling, he said.

### Says Interest Lack Due to Not Knowing Opportunities Exist

Turnquist declared that he believed that this lack of interest in refrigeration on the part of young people was due primarily to the fact that they do not know that such an industry exists or what opportunities it offers.

They need to get this information, he urged, before they enter high school. Then they will have the opportunity to select the courses they need.

The industry must offer opportunity, he observed, for 250 adult students to keep the classroom busy five nights a week. Short-term schools offered by manufacturers and distributors are always crowded, he added.

"With the increased emphasis on science in recent years, more and more students are turning to this field," Turnquist declared. "The fact that out of 550 science students at Cass Tech, 160 are honor students indicates that the brains of our youth are going to science these days."

But, he noted, the air conditioning and refrigeration industry is not getting its share.

"Only three out of every 20,000 students taking higher education in Detroit are studying air conditioning and refrigeration," he asserted.

### Agree Promotion Should Be Supported By the Industry

The group agreed that something should be done about this situation. Consensus was that a promotional project of this sort should have industry-wide support. The group decided to determine what costs would be involved and then to solicit the necessary financial backing.

Wholesaler representatives felt certain that their companies would support such a project and members of ASRE, RSES, and RACCA, expressed faith that members of their local group would help as individuals.

Ray Lee of Lee Equipment Co. called the meeting. It was attended by Jack Barager of George L. Johnston Co., Jack Winslow of Effective Temperature Control; Boyd Kitts of Stroh Brewery, Mike Sarzynski of Young Supply Co., Jim Rawsthorne of J. George Fischer & Sons, Inc., George Poggen of Frigidaire Sales Corp., Leonard Bedard of Ford hospital, and Turnquist.

### Cites NEWS Stories

Lee cited articles appearing in the Jan. 7 and 14 issues of the NEWS by Prof. W. N. Willson of the University of Houston as pointing the way in which the industry could help to interest youths in refrigeration careers.

# Let's talk cents

When you buy a low temperature system and check the TOTAL costs of both the low and high side, you'll be pleased to find that

## KRAMER



## THERMOBANK

**COSTS NO MORE...**  
*and you get so much more*

**THERMOBANK** provides the only positive re-evaporator with ample heat supply.

**THERMOBANK** completely protects the compressor — no liquid refrigerant to the compressor, no oil foaming, no motor overload.

**THERMOBANK** reduces electricity costs, reduces compressor requirements, and eliminates electric heaters.

WRITE FOR MANUAL TV-320

**KRAMER TRENTON CO. • Trenton 5, N.J.**



# Sparked by the Hottest Selling Story in the Business!

## Frigidaire Proves It's the

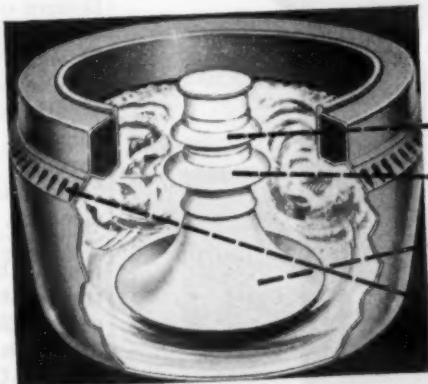
# WORLD'S *Savingest Sellingest* WASHER

### WOMEN WANT CLEAN CLOTHES—

**Frigidaire RUB-FREE Action Gets Clothes 38% Cleaner**

#### HERE'S WHY—

**It's Built in! It's Automatic!**



- LINT CHASER**—"sweeps" lint, dirt and scum out of the clothes—through 90 Lint Exits.
- CLOTHES CIRCULATOR**—guards against bunching and tangling.
- WATER ENERGIZER**—multiplies the cleaning power of detergents, gets clothes cleaner, without rubbing.
- LINT EXITS**—through which lint, dirt and scum float down the drain—never to return. No filter trap to clean.

—than the average of 6 other leading washers, and cleanest of all, by far. Tests proved it. These tests were made by one of America's great independent testing laboratories, under identical conditions of time, temperature, detergent and soil, using hard-to-clean cotton fabrics. RUB-FREE Action is exclusive—washes cleanest of all—and is a power-packed, sales-packed Plus for Frigidaire Washers.

### WOMEN WANT SAVINGS—

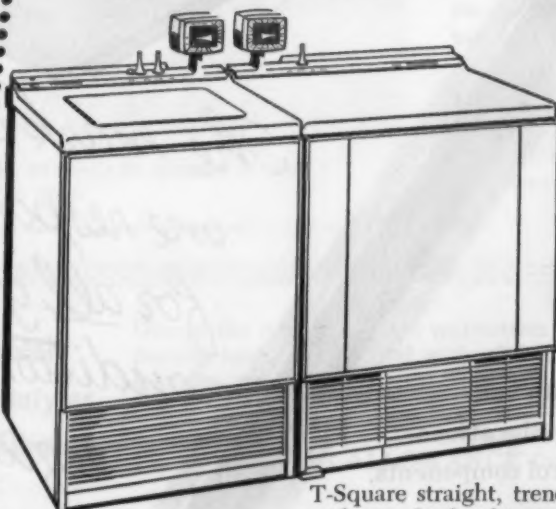
**and the Frigidaire Washer piles 'em up-up-up**



- SAVES HOT WATER**—up to 9 gallons on every wash load, 1800 gallons a year—without re-use of dirty wash water.
- SAVES DETERGENT**—up to ¾ cup with every wash, 21 good-sized boxes a year. Enough to do 156 extra washes.
- SAVES TIME**—does 3 loads while many other washers do only two. Saves drying time, because Rapidry Spin whirls out pounds more water. Saves electricity, too.
- SAVES CLOTHES**—gets every inch of every piece radiantly clean without rubbing. Clothes last longer.
- SAVES FILTER CLEANING**—Float-Over Wash and Rinse automatically gets rid of lint, dirt and scum filter traps miss. No filter is needed.

### WOMEN WANT FREEDOM OF CHOICE—

**Frigidaire has a model for every budget**



Models WI-57 and DI-57

Five superb new washers, all with such famous Frigidaire selling points as Rub-Free Washing Action, Float-Over Wash and Rinse, Rapidry Spin—and a dozen more. Each one with a matching Electric Dryer loaded with special Frigidaire features.

**WOMEN WANT STYLING—**  
**Dramatic Frigidaire Sheer Look fits in, looks built in.**

T-Square straight, trend-setting styling, the Sheer Look fits in with standard cabinets. Here are freestanding appliances that give a custom-planned look without custom-planned costs. Five glamorous colors, including the exciting new Charcoal Gray.

**And the Biggest Laundry Ad Push in Frigidaire History Is Telling the World About It**

# '57 FRIGIDAIRE

## HOME APPLIANCES



FRIGIDAIRE—Division of General Motors

REFRIGERATORS • ELECTRIC RANGES • AUTOMATIC WASHERS • ELECTRIC DRYERS • FOOD FREEZERS • DISHWASHERS  
DISPOSERS • RESIDENTIAL, ROOM AND COMMERCIAL AIR CONDITIONERS • DEHUMIDIFIERS • ELECTRIC WATER  
HEATERS • GAS- AND OIL-FIRED FURNACES • BUILT-IN WALL OVENS, COOKING TOPS AND FOLD-BACK SURFACE UNITS



## Eastern Locker and Freezer Provisioners Convene May 19-21

ELIZABETHTOWN, Pa. — Many freezer provisioners, food plan operators, and locker operators of the mid-Atlantic, New England, southeastern, and near midwestern states are expected to attend the Eastern Regional Convention of Locker and Freezer Provisioners in New York City May 19-21, sponsoring organization, National Institute of Locker and Freezer Provisioners, announced here.

The convention-exhibit will be at the Hotel New Yorker.

## Landmark Baptist Church Gets Central Heating, Cooling

ENGLAND, Ark.—Landmark Baptist church here has installed a central air conditioning and heating system, reports the Rev. Wallace Glover, pastor.

## Drayer-Hanson Sales Meeting Set To Coincide with Heating, Cooling Show

LOS ANGELES — Drayer-Hanson, Inc. has set its annual "first-of-year" sales sessions to coincide with the International Heating and Air Conditioning Show in Chicago, Feb. 25 through March 1.

Last year's sessions were held in Beverly Hills. Basis for the switch is that key company sales and engineering personnel will be manning the firm's triple-booth floor display at the show, it was indicated. Also, a majority of factory representatives of the air conditioning equipment manufacturer have said they and their staffs will attend the show.

Themed "Drayer-Hanson Product Fiesta," the company's showcase will "allow for product discussion and comparison," it was stated.

Parent company National U. S. Radiator Corp. and Unarco, another division, will have booths adjacent to D-H's display.

## Foster Reorganizes Plant Shipping, Receiving Dept.

HUDSON, N. Y.—In line with a five-year development and growth program, Foster Refrigerator Corp. announces the completion of a 10,000-sq. ft. addition to its factory here.

This latest step in a development program that has more than doubled the factory space in five years, was designed to reorganize the shipping and receiving departments and to increase the warehouse facilities, according to Jack R. Dickinson, vice president.

## Tyler '56 Sales Up Nearly \$2.5 Million; Earnings Ratio Down

NILES, Mich.—Tyler Refrigeration Corp. sales in the year to Oct. 31 were nearly \$2.5 million more than in 1955, according to the annual report, although net earnings per cent of sales dropped slightly below the 1955 per cent, from 4.9 to 4.3%.

Earnings and dividends per share remained the same in 1956 at \$1.88 and 60¢.

Net sales last year totaled \$19,505,828 compared with \$17,120,362 in 1955 and net income \$843,693 after loss of \$72,000 on the sale of Tyler's Cobleskill plant, as against \$841,331 the previous year. Expenditures in 1956 for capital assets were \$385,657 compared to \$290,470 in 1955, Tyler's report pointed out.

## Davis Will Head New Westinghouse Cooling Factory Branch In Ohio

STAUNTON, Va.—Westinghouse Electric Corp.'s air conditioning division has opened a factory branch in Cleveland, it was announced by John A. Gilbreath, manager of the company's air conditioning wholesaling department.

At the same time, Gilbreath announced the appointment of Perry E. Davis as manager of the Cleveland branch. Prior to joining Westinghouse, Davis was general manager of Unit Air Conditioners, Inc. in Cleveland.

To be located at 2010 E. 46th St. in Cleveland, the new office will function as part of the recently-organized air conditioning wholesaling department.

Gilbreath said the wholesaling department will handle sales of the complete Westinghouse air conditioning product line manufactured at Staunton, Va. Westinghouse packaged air conditioners consist of residential and commercial units which range in size from 2-hp. up to 15-hp. Wholesale distribution of Westinghouse forced warm air furnaces will also be handled through the new branch, as will "Precipitron" electronic air cleaners.

The Cleveland office will be responsible for wholesale operations with contractors and dealers in Cleveland, Akron, Massillon, Canton, and other northeastern Ohio communities.

## National Electrical Week Promotion Seen Having 'Huge Impact'

NEW YORK CITY—The National Electrical Week observance Feb. 10-16 will "come of age" as a major all-industry educational and promotion event, Merrill E. Skinner, chairman, said in a report from the N.E.W. Committee.

"With the tremendous backdrop being provided by network television, radio, and publication advertising, and with all the reports we have on vigorous state and local activities, we are certain that National Electrical Week will have an outstanding cumulative impact throughout the United States and Canada," Skinner said.

## Seay To Emphasize Developments Due

NEW YORK CITY—Coming electrical developments that will affect everyone living in the second half of the 20th century will be emphasized by E. W. Seay, assistant manager, general advertising, Westinghouse Electric Corp., when he addresses the New York chapter of the Electrical Women's Round Table Feb. 13 at the Gramercy Park hotel here.

In observance of National Electrical Week, Feb. 10-16, Seay will represent the entire electrical industry at the monthly meeting of the organization of women whose business occupations are connected with all branches of the industry and allied fields.

### Choose the only complete line!

Coordinated, matched control systems from one manufacturer are your safest bet when you pencil in your next design specifications. Only from General Controls can you select the entire control package right across the board.

Forty factory branch offices in U.S.A. and Canada will back your buying decision each work day in their daily contact with your field organization. Regular service and educational meetings build confidence in your control components, keep your products sold.

### WRITE FOR THE COMPLETE CATALOG AVAILABLE ON THESE CONTROLS—

 <p><b>THERMOSTATS</b> T-230/240 Series Heating-Cooling Thermostat—One of several deluxe and standard models for automatic or manual switch-over, one or two-stage cooling, fan operation, cooling models. Humidity controls also available.</p>	 <p><b>MASTER CONTROL PANELS</b> RS-108 Panel—furnishes prewired simplicity of complete electrical center for heating and cooling connections. Available in sufficient variations to fit every application.</p>
 <p><b>SOLENOIDS</b> Solenoids . . . for all refrigerants, pressures and pipe sizes. General Controls is the largest solenoid manufacturer in the world!</p>	 <p><b>RELAYS, MOTOR STARTERS, CONTACTORS</b> RS-105—Motor Starter—for commercial systems where control panels won't do the job. Also available—relays and contactors for fan and circulator control.</p>
 <p><b>EXPANSION VALVES</b> V-200 Series—models available for all tonnages, superheat variations, and selective connectors with adjustable orifices to reduce inventory.</p>	

Five Plants:  
Iron Mountain, Michigan  
Glendale, California  
Burbank, California  
Skokie, Illinois  
Guelph, Canada



## GENERAL CONTROLS

America's Finest Automatic Controls for Home, Industry, and the Military  
Factory Branch Offices Serving All Principal Cities of the United States and Canada

*The mark of one source  
one responsibility  
for all your air  
conditioning control  
requirements*



## Heat Collector To Focus Sun Rays on Water Pipes To Condition Test House

TUCSON, Ariz.—Both heated and cooled by the sun, a dwelling is soon to rise near the University of Arizona campus.

A project of the Institute of Atmospheric Physics that was set up at the university three years ago, the house is designed as a laboratory to test means of utilizing solar energy in place of conventional means of heating and cooling.

At the same time it will be a thoroughly livable home probably occupied by Dr. Raymond Bliss, who recently joined Dr. A. Richard Kassander and Dr. James E. McDonald as associate physicists.

The University Board of Regents has allotted \$15,000 toward the "sun house" and the institute has an equal sum coming from other sources. Cost of constructing and equipping a residence of 2,000 sq. ft. is expected to run between \$25,000 and \$30,000.

Architects are now completing plans, with much advice from the institute's staff on the placement of apparatus. It is hoped to start construction by July 1 and complete it in time for an all-winter heating test.

On the roof is to be a "heat collector" that will focus sun rays on water pipes. Heated water will be stored in a large tank, and circulated through ceiling panels.

In summer this process will be "roughly reversed," says Dr. Bliss. The heat collector will not be used at all, and the same water will be allowed to dissipate its heat into the air, "with some assistance from special devices that are not easily understood by laymen."

It is admitted that the first cost of the installation puts it beyond the reach of the ordinary homeowner. Once a system is proved, however, costs can be brought down by volume production and sales, it was stated.

Operating costs should be low, even with an auxiliary heat pump as a booster in severe weather, according to Dr. Bliss.

## Brittingham To Succeed Higgins as Pittsburgh Corning President

PITTSBURGH—Russell Brittingham, vice president and director of purchases of Corning Glass Works, Corning, N. Y., has been chosen the next president of Pittsburgh Corning Corp. to succeed H. B. Higgins, it was announced.

Higgins is chairman of the board of Pittsburgh Plate Glass Co.

Pittsburgh Corning Corp., with headquarters here, manufactures glass blocks and "Foamglas" cellular glass insulation, and is owned jointly by Pittsburgh Plate and Corning Glass Works.

## Market Conditioned

JACKSONVILLE, Ill. — Featuring year-round air conditioning and more than 200 ft. of refrigerated cases, National Food Store's newest supermarket has opened here.

It has 12,325 sq. ft. of floor space.

## WHAT . . . WHEN . . . WHERE — A Guide to Coming Events of Interest

American Society of Heating & Air Conditioning Engineers, Inc. (ASH&AE) Annual Meeting  
Feb. 25-March 1, Chicago

International Heating & Air Conditioning Exposition  
Feb. 25-March 1, International Amphitheater, Chicago

National Electrical Mfrs. Association (NEMA) Meeting  
March 11-14, Edgewater Beach hotel, Chicago.

Refrigeration Service Engineers Society (RSES) Educational Forum  
April 5-7, Sheraton-Palace hotel, San Francisco.

Gas Appliance Mfrs. Association (GAMA) Annual Meeting  
April 8-10, The Greenbrier, White Sulphur Springs, W. Va.

National Warm Air Heating & Air Conditioning Association (NWAHACA) Committee Meetings, Technical Conference  
April 29-May 2, Hotel Cleveland, Cleveland.

Air-Conditioning & Refrigeration Institute (ARI) Board Meeting and Annual Meeting  
May 5-8, The Homestead, Hot Springs, Va.

National Restaurant Association (NRA) Convention and Exposition  
May 6-10, Navy Pier, Chicago.

Mechanical Contractors Association of America (MCAA) Annual Meeting  
May 7-10, Hotel Fontainebleau, Miami Beach, Fla.

American Society of Refrigerating Engineers (ASRE) Annual Meeting  
June 2-5, Hotel Fontainebleau, Miami Beach, Fla.

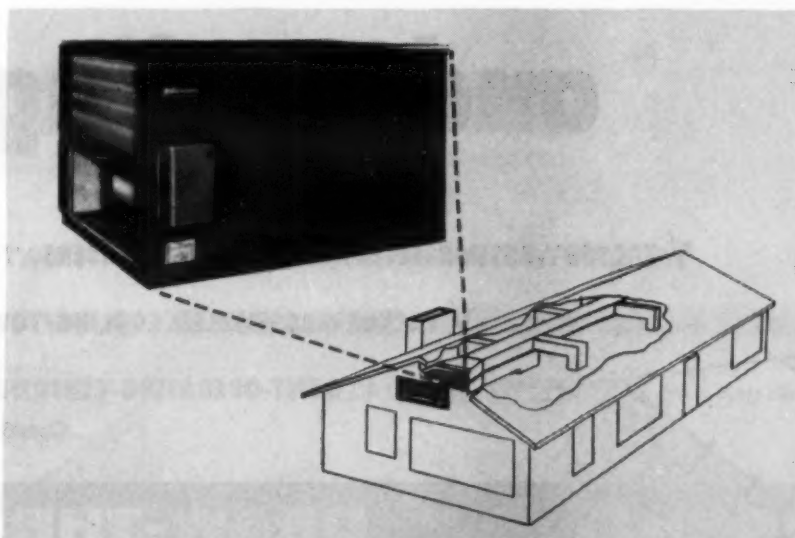
National Warm Air Heating & Air Conditioning Association (NWAHACA) Summer Convention  
June 5-7, Fairmont hotel, San Francisco.

## L. K. Baxter, Westinghouse Electric Appliance Division General Service Manager, Dies at 62

MANSFIELD, Ohio — L. K. Baxter, general service manager of the Westinghouse Electric Appliance Div., died Feb. 3 at his home here. He was 62.

Baxter joined Kelvinator's refrigeration service department after World War I and later served in the sales and service department of Servel. In 1929, he was appointed service manager of the Westinghouse refrigeration department. In 1933, he became general service manager for the appliance division when service activities on the company's products were combined in a single service department.

## Eager Market Assured for New Waterless Cooling Unit



FLEXIBLE IN APPLICATION, the Type 915 may be installed in attic, basement, garage, breezeway or utility room.

### Type 915 Proves Big Hit at NAHB Show

With water shortages and pressure problems cropping up in many areas, dealers can expect a hot-selling summer with waterless cooling in '57. Step into profit position with the new Mueller Climatrol Type 915 — a low-cost, efficient system demanding a minimum of field service.

No refrigeration fuss! The unit is factory-assembled and hermetically sealed — pre-wired, charged and tested. In addition, optional prefabricated duct kit contains everything you need for fast installation—from Fiberglass duct sheets (scored for easy forming) to inlet and outlet diffusers and grills.

### Mueller Cooling Dealers Use Liberal Warranty as Effective Sales Clincher

One of the most complete warranties in air conditioning history is offered with all Mueller Climatrol cooling systems. A real confidence-builder, the policy not only protects your customers against defects in any part of the refrigeration cycle, but PAYS A LABOR ALLOWANCE for service.



LABORATORY TESTING of important components helps clarify understanding of air conditioning in five-day course.



SERVICING PROBLEMS are "planted" in units by instructors for student groups to locate and try to remedy.



UNITS ARE DISMANTLED to show arrangement of parts and operating principle. All key components are studied.

## 1957 Cooling Schools Attract Dealers Nation-wide

Apprentice to expert in just five days! Packing years of experience into an intensified program, Mueller Climatrol annually invites all dealer personnel to air conditioning schools covering every phase of equipment design, installation and servicing. This year, the highly popular series of courses will be conducted in Milwaukee, Detroit and Danville (Virginia).

FOR ALL THE FACTS about Mueller Climatrol's big profit plans for dealers in 1957, write . . .

**Mueller Climatrol**

2056 W. Oklahoma Ave. • Milwaukee 15, Wis.

For more information about products advertised on this page use Information Center, page 26.

...CLIMATE CONTROL FOR HEALTHFUL LIVING





## Compressors--

(Concluded from Page 1)

month period totaled 4,200,499 units, compared with 3,023,539 units in the same period of 1955. October shipments in 1956 were 341,955 units. These totals do not include compressors designed for use with ammonia.

Of the 10-month total for 1956, 235,791 of the compressor bodies shipped were of the type used in automotive air conditioning. A comparative figure for the same period of 1955 is not available, but total 1955 shipments amounted to 255,371 units. October shipments of automotive-type compressors amounted to 17,302 units.

Figures for compressor bodies, broken down by categories, together with the names of reporting companies, follow:

(Except for household refrigerators)

Horsepower*	Shipments Including Exports	
	October, 1956	Jan.-Oct., 1956
1/4 & under ...	34,048	486,032
1/4 ...	58,413	693,892
1/2 ...	22,025	279,949
1/2 ...	36,820	414,673
3/4 ...	35,350	679,815
1 ...	95,456	787,472
1 1/2 ...	24,608	310,177
2 ...	3,725	67,287
3 ...	6,047	105,430
5 ...	3,805	80,985
7 1/2 ...	2,224	36,726
10 ...	720	8,613
15 ...	229	3,288
20 ...	287	2,579
25 ...	164	1,709
30 & over ...	577	6,081
<b>Total</b> ...	<b>324,498</b>	<b>3,964,708</b>
For Ammonia Refrigerant—		
Total ...	155	1,729
For Automotive Air Conditioning—Total ...	17,302	235,791
<b>Grand Total</b> ...	<b>341,955</b>	<b>4,202,228</b>

\*For all refrigerants except ammonia (excluding units for automotive air conditioning).

Reporting companies: Airtemp Div., Chrysler Corp.; Bendix-Westinghouse Automotive Airbrake Co. (beginning Oct.); Brunner Mfg. Co.; Carrier Corp.; Copeland Refrigeration Corp.; Curtis Mfg. Co.; Refrigeration Div.; Frick Co., Inc.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Kelvinator Div.; American Motors Corp.; Lehigh, Inc.; Servel, Inc. (Jan.-Sept.); Tecumseh Products Co.; Trane Co.; The Vilter Mfg. Co.; Westinghouse Electric Corp.; Worthington Corp.; York Corp., subsidiary of Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies regardless of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerator are not included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

### Airtemp Distributor's Conditioning School To Run Feb. 18-Apr. 1

PHILADELPHIA — Eleventh annual air conditioning training school staged for dealers by S. S. Fretz, Jr., Inc., Airtemp distributor here, will begin Monday, Feb. 18, according to H. B. Shaffer, vice president in charge of the company's air conditioning division.

Sessions will run from 8 to 10 p.m. once a week until April 1 at the Fretz showroom at 870 N. 28th St. here.

A charge of \$10 is made, half of which is refunded if all homework assignments are completed, to partially cover cost of various manuals and literature given the students.

Both residential and commercial air conditioning are included in the course.

## Joint Environmental Control

### Institute To Classify, Integrate Data On Heating, Cooling Health Safeguards

LOS ANGELES—Plans for a joint Institute on Environmental Control by the Institute of Heating & Air Conditioning Industries and the University of California at Los Angeles were announced by Managing Director R. E. (Rudie) Harkens.

The institute, "which will begin to classify and integrate the vast amount of field and laboratory data on man's struggle to safeguard his health and comfort through heating and air conditioning," will be held next fall on the UCLA campus.

It is being worked out as part of the Stamp Plan public relations program under direction of Joe Alvin, newly-appointed public relations director of the institute, and under the super-

vision of William L. Hoyt, chairman of the standards committee appointed for 1957 by President Robert N. Hall.

The plan for the institute has been accepted in principle by Dr. L. M. K. Boelter, dean of the UCLA School of Engineering, who has been invited to deliver the keynote address at the opening session.

"This is one of the most progressive steps ever undertaken by the industry for upgrading and self-improvement through higher standards," Harkens said.

"We want it to be a common meeting ground for the vast and immensely valuable laboratory data developed by UCLA scholars and engineers, and the

equally valuable field experience of the industry," Boelter continued.

Upon approval of the agenda and plan for the institute by the board of directors of IHACI, Harkens said, invitations will be extended to the National Warm Air Heating & Air Conditioning Association, the American Gas Association, and the Pacific Coast Gas Association, as well as other qualified groups, to participate in the UCLA discussions.

UCLA, on the other hand, will make available its top research scientists who have been probing into human reaction to environmental factors in every field, including aeronautics and solar energy, a spokesman explained.

A public announcement of the plans will be made as soon as joint committees are formed by the university and the institute to outline and program the agenda.

### Frigikar Sales Up 59% In '56, Buys Reliance Engineering

DALLAS — Frigikar Corp. here has acquired all of the outstanding stock of Reliance Engineering & Mfg. Corp., San Antonio, it was announced by Bert J. Mitchell, Frigikar's president and general manager.

Mitchell said the newly-acquired, wholly-owned subsidiary "will provide the facilities and products needed to give a year-round program to Frigikar's operations."

At the same time, Mitchell announced that Frigikar sales increased 59% over those for 1955, and predicted 1957 sales will top last year's by 50%.

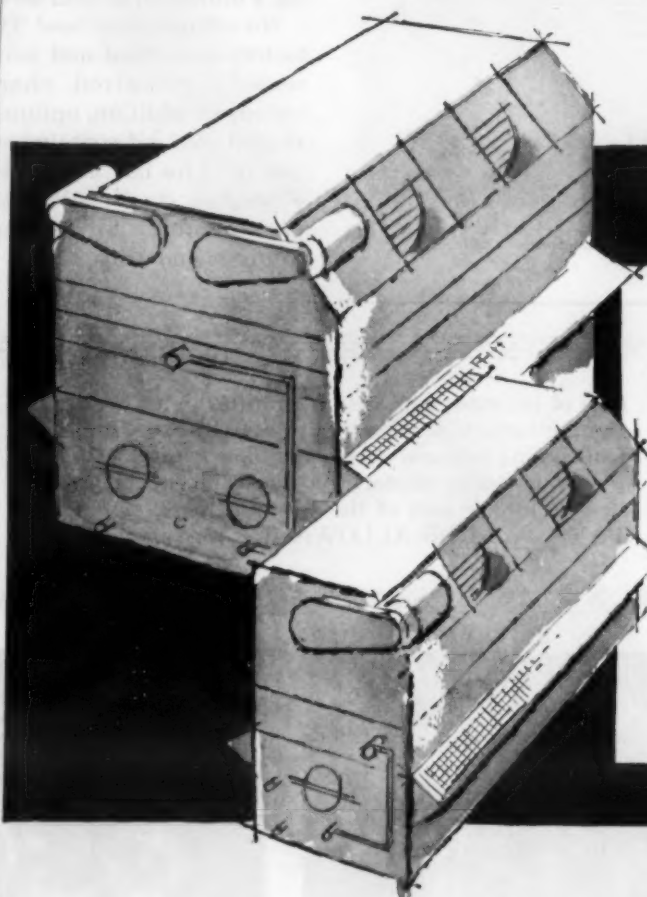
Reliance Engineering & Mfg. manufactures a complete line of hospital and laboratory case work, controlled-temperature laboratory equipment, and refrigerated milk storage and transportation equipment.

# B.A.C. offers Universal Line and Cooling Towers

✓ FACTORY-ASSEMBLED EVAPORATIVE CONDENSERS, 10 to 350 TONS

✓ FACTORY-ASSEMBLED COOLING TOWERS, 10 to 400 TONS

✓ QUIET-OPERATING CENTRIFUGAL FAN UNITS for Indoor or Outdoor Installations



## DRAW-THROUGH

(COOLING TOWER ILLUSTRATED)

### If you need:

A UNIT TO FIT IN A LIMITED FLOOR SPACE

AN INDOOR UNIT FOR USE WITH DUCTWORK

A UNIT TO FIT IN A LIMITED HEIGHT AREA

GREATER CAPACITY IN LESS SPACE

### Specify:

B.A.C. "DRAW-THROUGH" UNIT—A minimum of floor space is required for these units because of their advanced design and the position of the fans at the top of the unit.

B.A.C. "DRAW-THROUGH" UNIT—These units have a specially-designed single inlet pan section for ductwork, as well as duct flanges on the outlet.

B.A.C. "DRAW-THROUGH" UNIT—A specially-designed double inlet pan section, that decreases unit height appreciably, is available.

B.A.C. "DRAW-THROUGH" UNIT—Because of their superior design, these units do a bigger job per square foot than ever before.

## NEW B.A.C. PLANT

On December 1st, 1956, Baltimore Aircoil Company, Inc. began operations in this new, modern plant. Within two months, production of B.A.C. Evaporative Condensers and Cooling Towers was at an all-time high for the company. The plant... with its new, up-to-date manufacturing equipment and methods... has twice the production capacity of the former B.A.C. plant.





## N. J. Covers Cooling In New Building Code

TRENTON, N. J.—The State Conservation Dept. announced that the standard building code of New Jersey has been expanded to cover air conditioning, electrical equipment, and elevators.

Three new sections of the code cover elevators, motor stairways, dumbwaiters, and conveyor equipment, air conditioning, mechanical ventilation and refrigeration, and electrical equipment and wiring.

## Cooled Furniture Display

DALLAS—Completion of the first completely air conditioned furniture display building in the nation is scheduled for next May. To be third largest structure in Dallas, it will contain 432,000 sq. ft. of space and provide parking space for 3,000 cars.

## Remote or over 5-Ton Refrigeration Units In Milwaukee Now Must Pay Fee

MILWAUKEE—A new refrigeration code which adopts the Wisconsin State Refrigeration Code by reference is now in effect here, according to the Department of Building Inspection and Safety Engineering.

The former code covered only multiple evaporator systems, it was pointed out. The new one "is quite different."

In part, the new code says that all remote refrigeration systems "irrespective of tonnage" and all unit refrigeration systems "in excess of 5 tons" shall be subject to a permit and the inspection regulations cited.

When any refrigeration work for which a permit has been issued "is not started within six months from the date of the issuance of the permit," or if there is cessation of such work

which has been started "of more than six months," then said permit shall lapse "and be void, and no refrigeration work shall be begun or resumed until a new permit is obtained" and the fees are paid.

Fees for permits required by this code for installation of any refrigeration system "shall be at a rate of \$1 per horsepower with a minimum permit fee of \$3 and a maximum of \$25."

Each refrigeration system within the scope of this code, except "those systems of the hermetically sealed type," shall be provided with a "durable and legible sign" showing the name of the refrigerant used in the system "in black letters 5/8-in. minimum height on a yellow background" except that this color combination "shall not be

required where a different color code is already in use."

The sign shall be "permanently attached to the compressor, liquid receiver, or charging valve" and shall be in full view from each location of such equipment, otherwise "additional signs shall be provided."

Main refrigerant line valves and the main compressor disconnect switch on all remote systems "shall be identified by name with a sign of the same size and type" as aforementioned. Direction of flow arrows and in-and-out designations shall be used wherever practical and valves or other equipment so marked shall not be installed "in other than the indicated direction of flow."

Where refrigeration equipment is housed in a separate room, "such rooms shall be legibly marked 'Refrigeration Equipment Room' on the entrance doors."

In any refrigeration system

where major components of the system are in separate rooms or in ductwork supplying air to habitable rooms, readily accessible hand-operated valves in the supply and return lines shall be provided between "such major components, except hermetically sealed systems."

## 60-Story Manhattan Bldg. To Be Cooled

NEW YORK CITY—Plans for a new 60-story, entirely air conditioned office building to be built by real estate developers on the east side of the Avenue of the Americas between 51st and 52nd Sts. were announced here recently.

To have about 1.7 million sq. ft. of office space, this, together with the new 60-story Chase Manhattan Bldg., will be the largest structure put up in New York City since the 65-story RCA Building went up in Rockefeller Center a generation ago.

Peter B. Ruffin and John W. Galbreath, owners and builders of the 45-story Socony-Mobil Bldg., largest commercial structure to be completed here in postwar years, said the stainless steel fronted building will cost between \$50 and \$60 million and will be completed by the spring of 1960.

## To Build Conditioned Market In St. Louis

ST. LOUIS—Air conditioned, the largest supermarket in the Rapp chain is scheduled for construction soon at Union and Page Blvds.

Fred P. Rapp, Sr., president, said the new unit will have 26,500 sq. ft. of floor space and 2,500 sq. ft. of basement area.

Rapp said there will be 85 ft. of self-service meat counters. Frozen meats, fish, and fresh dairy products will be displayed in 80 ft. of refrigerated cases opposite the meat department.

## Calgon Opens Processing, Packaging Plant In Mich.

ROCKWOOD, Mich. — The new Calgon processing and packaging plant of Hagan Chemicals & Controls, Inc. at Rockwood was opened officially on Feb. 7.

The plant is located on a 45-acre tract adjacent to the Michigan Central Railroad, and within easy access to the Detroit-Toledo express highway. It is currently producing Calgon products for household and commercial use.

## Edison, Bersted Named To McGraw-Edison Posts

CHICAGO — McGraw-Edison Co., recently formed when McGraw Electric Co. and Thomas A. Edison, Inc., merged, has established the posts of chairman and executive vice president and elected three new directors.

Charles Edison, son of the late inventor and formerly chairman of the Edison company, was elected chairman.

Named executive vice president was Alfred Bersted, president of Bersted Mfg. Co., division of McGraw-Edison.

New directors are Edison, Henry G. Riter III, president of Thomas A. Edison Industries, and Albert R. Jube.

# of Evaporative Condensers for All Applications

✓ TWO STYLES—DRAW-THROUGH AND BLOW-THROUGH

✓ TWO PAN ARRANGEMENTS—Single Inlet for Ductwork . . . Double Inlet for Low Height

✓ ROTATING SECTIONS—To Give Any Desired Connection Arrangement

## BLOW-THROUGH

(EVAPORATIVE CONDENSER ILLUSTRATED)

### If you need:

A UNIT WITH DRY FAN OPERATION

A UNIT WITH MAXIMUM ACCESSIBILITY

AN EXCEPTIONALLY QUIET UNIT

A UNIT TO FIT IN A SPACE WITH LIMITED HEIGHT CLEARANCE

### Specify:

B.A.C. "BLOW-THROUGH" UNIT—In these units, the fans are not in the saturated discharge air, and corrosion in these vital operating parts is all but eliminated.

B.A.C. "BLOW-THROUGH" UNIT—Fans, bearings, drives, and all other moving parts on these units are externally located for ease of inspection and service.

B.A.C. "BLOW-THROUGH" UNIT—All noises are literally locked inside these units. By using a special forced-draft design, the objectionable water-drip noises have been eliminated.

B.A.C. "BLOW-THROUGH" UNIT—The location of the fans on the side of these units allows them to fit in areas where height is limited.

**Visit Booth 1009 and 1011**

**at the ASHAE Show, Chicago—Feb. 25-Mar. 1**

**. . . and see for yourself the flexibility of the New B. A. C. units.**

**Baltimore Aircoil Company, Inc.**

**BOX 7322 • BALTIMORE 27, MARYLAND**





## 10-Ton Central Unit Leads Forston's '57 Line; Offers New Auto Conditioner

HOUSTON, Texas — Newest addition to the Forston Co. air conditioning line are 10-ton central units, air handling units, and a new-model automotive air conditioner, the company announced.

The 1957 line of air-cooled central air conditioners consists of 2, 3, 5, 7½, and 10-ton remote type systems. These are claimed to have a wide range of uses when supplemented with new evaporator assemblies and air handling units offering adaptability to various installations for residential, commercial, and industrial purposes.

Forston 2, 3, and 5-ton units are equipped with "F-22" compressors, available in single or three-phase. The 7½ and 10-ton models are equipped with "F-22"

compressors offered in three-phase.

Multiples of the units are practical, the company said, where required capacities are greater than 10 tons. "All types of zone cooling can be accomplished," it was added.

Also included in the line are 1 and 2-ton window air conditioners. Flush mounting, four-way direction air flow louvers, and thermostat control are features.

"A glamorous touch is added to automotive air conditioners with our 'Golden Accent' units," the company declared.

Model A 37 is equipped with new "Magnet-Louvers" with control panel centered for convenience. It is said to offer "instant" cooling and controlled

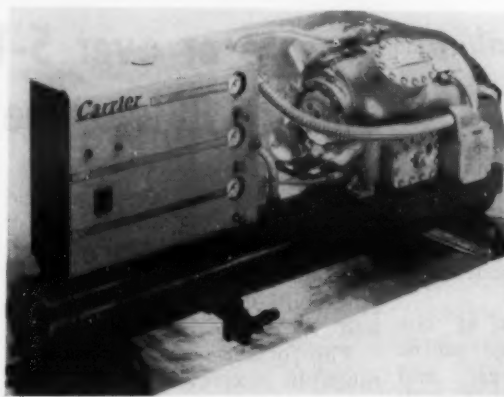
air circulation. A choice of cabinet finishes is available, but the Golden Accent is featured.

The line continues to include compact dash and trunk mounted models with thermostatically controlled magnetic clutch.

## Pratt Hospital To Be Air Conditioned

PRATT, Kan.—A Ford Foundation check for \$11,600, first half of a \$23,200 grant to the Pratt County hospital, will be used to air condition the institution before the next "hot" season.

The Sisters of St. Joseph operate the hospital and their plan for purchasing individual air conditioners for each room as well as general use areas, has been approved by the foundation and the county hospital board has let a contract for electric wiring for the project.



NEW line of hermetic compressors ranging from 10 through 60 hp. has been introduced by Carrier Corp. This 15-hp. model is said to be virtually vibrationless and noise-free.

## Hermetic Reciprocating Refrigeration Units Up to 60 Hp. Added by Carrier

SYRACUSE, N. Y.—A reduction in the cost, size, and weight of "built-up" air conditioning systems for smaller buildings was forecast recently by Carrier Corp. with the introduction of a new line of hermetic reciprocating

refrigeration units in sizes up to 60 hp.

William G. Hillen, applied air conditioning sales manager for Carrier's Unitary Equipment Div., said the cost reduction would apply both to installed price and to operating and maintenance expense.

### CANCELS 'OPEN DRIVES'

Describing the trend toward more widespread use of hermetic cooling devices, Hillen pointed out that the primary feature of a hermetic unit is that it eliminates "open drives" employing belt and pulley, a gear box, or other couplings.

"Compressor and motor are mounted on a single shaft which is hermetically enclosed sealing out dust and dirt," it was noted. "The result is that installation work and resultant cost is reduced, space requirements are cut, and the life of the equipment is greatly lengthened."

"With the Carrier models, in addition, passage of refrigerant gas through the motor housing to cool the motor adds to the efficiency, thus reducing cost."

Carrier has been producing hermetic refrigeration compressors in sizes up to 10 hp. The line now includes 15, 20, 25, 30, 40, 50, and 60-hp. models.

The hermetic compressors are said to be "virtually vibrationless, and almost noiseless."

### PARTS OF UNITS

The new unit will consist of a motor compressor mounted on vibration isolators on top of a condenser. The starting box mounted on the condenser will contain starting equipment, high-low cut-out, oil safety switch, discharge, suction, and oil pressure gauges.

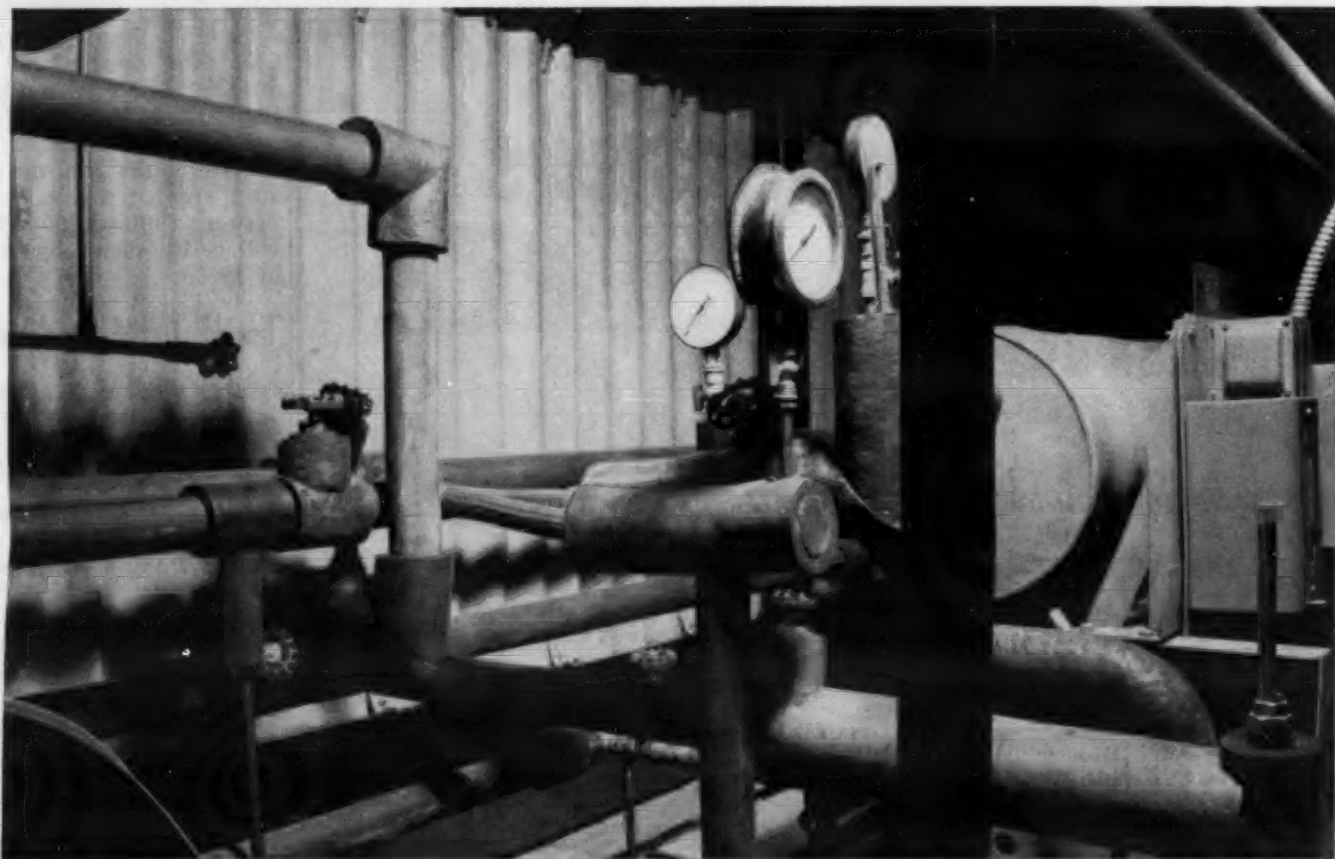
When power and water connections are made and the refrigerant added the compressor is ready for use.

On 208/220 volt supply, increment starters will be furnished for all sizes, and across-the-line starters for the 10-hp. size, Hillen said. On 440/550 volt supply, across-the-line starters will be available on all sizes and increment starters on those of 25 hp. and up, he reported.

Motor compressor assemblies will be made available with vibration isolators on rails, he stated, when the unit is to be used with other forms of condensers.

### To Cool Branch Banks

BIRMINGHAM, Ala. — The Guaranty Savings & Loan Association here has announced that it will build three new branch establishments in the Birmingham area. All will be completely air conditioned.



Intricate piping in confined space can be insulated easily with Armstrong Armaflex. Extreme flexibility simplifies handling, reduces application time as much as 50% when compared with wrap-on type coverings.

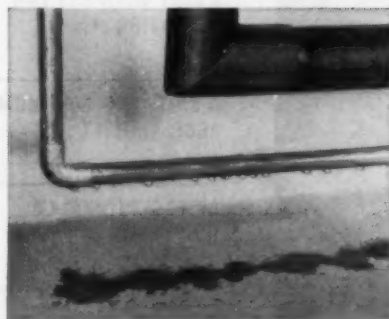
## Stop condensation on fluid cooling lines with this new insulation

You can stop condensation on commercial and residential air-conditioning lines with Armstrong Armaflex®. This new, foamed plastic pipe insulation completely seals out moisture and air. No separate vapor barrier is needed. Armaflex remains dry in service, so its low K-factor of 0.28 at 75° F. stays low for the life of the installation. This insulation also will withstand 200° F. on hot lines or during the heating cycle on dual-temperature lines.

Armaflex is remarkably flexible, can actually be tied into knots. This great flexibility can speed installation. Slipped over pipes or copper tubing, Armaflex follows contours readily without any special cutting or fitting. If lines are already in operation, Armaflex is simply slit lengthwise, snapped in place, and quickly sealed with cement.

Armaflex is clean to work with—will not chip, crumble, or rub off. Waste is negligible. It will not support combustion, is safe to install before sweat fittings are made. Armaflex comes in 6' lengths, for all sizes of pipes and tubing from ¼" up to 3½" o.d.

Send for free booklet giving full details on this amazing new insulation. Write Armstrong Cork Company, 3002 Parsons Street, Lancaster, Pa.



Prevents condensation when used within recommended temperatures and humidities. Cellular composition of Armstrong Armaflex seals out air and moisture, eliminates need for separate vapor barrier coating or finish.



Fast, easy fabrication of fitting covers is accomplished by miter-cutting pieces of Armaflex and cementing them together with Armstrong 520 Adhesive.

**Armstrong**

**INDUSTRIAL INSULATIONS**



## Purifying Helium for Navy Blimps

HELPING NAVY BLIMPS to stay up is the mission of this portable helium purification trailer, one of six built for the U. S. Navy by the York Corp. subsidiary of Borg-Warner. After a certain length of time, the helium used to keep the blimp aloft becomes impure and must be repurified. A gasoline engine drives the compressor which draws the impure helium from the gas bag, purifies it by passing it over drying beds and then further purifies it by condensing the helium through a York refrigeration system. The helium is then either returned to the gas bag or put into storage for use at a future date. Compressors, engines, pumps, and cooling tower are at right in photo above, while drying beds are in large square structure at left.



## Bridgeport Thermostat Doubles Factory Size and Output

MILFORD, Conn.—A modern \$2 million manufacturing plant, more than doubling the size and output of the installation it replaces, has been opened by Bridgeport Thermostat Div. of Robertshaw-Fulton Controls Co. here.

The 180,000-sq. ft. plant is on a 15-acre site here. Precision instruments and components for use in industry and jet aircraft are being produced in the facility. In addition, metallic bellows and instruments employing bellows, such as temperature controls for home appliances, also are being made.

The division's own wells provide water for refrigeration and air conditioning equipment, it was explained.

## New Hetherington Plant Will Have Air Conditioning

SHARON HILL, Pa.—Work got under way recently for a new one-story, 16,200-sq. ft. air conditioned building for Hetherington, Inc., the manufacturer announced.

Site of the activity is a 6¾-acre plot on Hook Rd. in the suburban Philadelphia community of Folcroft, Pa.—one-half mile from Hetherington's present Sharon Hill plant, it was added.

According to Joseph Schellman, Hetherington president, the Folcroft plant will provide urgently needed extra room in all departments to meet the growing demands of the electrical, electronic, and aviation industries. The building will house administrative, sales, and engineering offices as well as testing and assembly departments. Basic parts manufacturing for Hetherington's special-purpose switches and indicator lights will remain in the Sharon Hill plant.

### Thinking of —

- changing territories
- expanding your territory
- taking on new lines—

Check the  
**CLASSIFIED ADS**  
on page 42

Your opportunity may  
be there.

## Drops Temperature from 75° to 51°

## Refrigeration System Removes Heat From Oil Coolant In Buick Factory

FLINT, Mich.—A refrigeration system which removes heat from soluble oil coolant is assisting the manufacture of automobile aluminum transmission housings here.

Principal equipment in the system used at General Motors Corp. is a 50-hp. Trane automatic hermetic centrifugal water chiller.

The refrigeration system is designed to remove heat from soluble oil coolant used for finish boring and milling machines in the production of Buick "Dynaflow" transmission housings. The machining operations must be held to very close tolerances prescribed in the manufacturer's specifications.

According to J. F. Kolder, works engineering department at Buick, "any uncontrolled expansion in the manufacture of Dynaflow transmission housings would result in excessive scrap."

The coolant system operates by diverting a portion of oil coolant to a heat exchanger, the flow being controlled by a diaphragm valve. In the heat exchanger, using chilled water from the CenTraVac, the soluble oil is cooled and then dumped into a pump pit where it is mixed with other coolant oil. The chilled water is circulated between the CenTraVac and heat exchanger by a 110 g.p.m. pump.

Three 1,220 g.p.m. coolant

pumps move the temperature-conditioned soluble oil from the pits, where additional cooling has been provided, to the milling and boring machines. Here, the oil coolant is used in machining aluminum housings.

Temperature of the oil coolant prior to chilling in the heat exchanger is 75° F. Leaving temperature is 51°.

United States Hoffman Machinery Corp., Syracuse, N. Y., was contractor for the job. Engineering for the CenTraVac application was handled by the Parry Engineering Co., Detroit.

## Frank R. Rice Dies

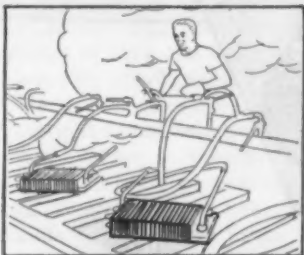
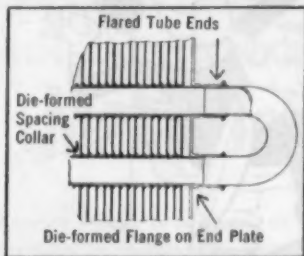
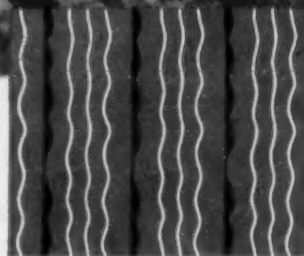
LARCHMONT, N. Y.—Frank R. Rice II, 56, sales manager of Frigidaire Corp. in New York City, died of a heart ailment in his home.

His body was removed to St. Louis for burial. He was formerly sales manager of Frigidaire Sales Corp. there.

## SO HALSTEAD & MITCHELL ASKED ENGINEERS



# WHAT WOULD YOU CHECK TO FIND A BETTER FINNED COIL?



### IS HEAT TRANSFER IMPROVED?

H & M's "Turbu-Flo" finned surface increases air turbulence between fins for better air-to-surface contact. With air film resistance lowered, heat transfer is markedly increased.

### IS MECHANICAL DESIGN SUPERIOR?

H & M structural design severely restricts vibration and expansion-contraction effects. Die-formed spacing collars on the fins provide a rigid seat for a mechanical locking of fins to tubing.

### IS TESTING "AIR-TIGHT"?

Every Halstead & Mitchell coil is tested for leaks with 300 psi air pressure under water. Coils are cleaned, dried by blow out with high pressure steam—then dehydrated in a 400°F oven.

We are highly competitive folk, interested in the sale of large numbers of direct expansion coils, standard and non-freeze steam coils, and air-cooled condensers. We ask your engineers in this industry what features cause you to specify one finned coil over another—and our Halstead & Mitchell engineers then design to this extra-high level. We thought you'd be interested in points your engineers have stressed, for paying attention to them has boosted Halstead & Mitchell finned coil sales.

**HM**  
*Halstead & Mitchell*

- ☐ Air-Cooled Condensers, Bulletin AC-100
- ☐ Direct Expansion Cooling Coils, Bulletin DE-200
- ☐ Steam Coils, Standard & Non-Freeze, Bulletin S-200
- ☐ Special Evaporator and Condenser Coils to your specifications

If you want more detailed information describing the better finned coil with "Turbu-Flo," the better fin surface, please check the appropriate block to the right, and mail this ad with your name, title and company name and address to Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

For more information about products advertised on this page use Information Center, page 26.



## Simpler Solenoid Valve Selection May Be Due

Stafford Discusses ASRE Rating, Testing Standard, Considerations In Choosing, Installing Solenoids, Service Problems, Maximum Operating Pressure

CHICAGO—Current efforts to develop standards for the rating and testing of solenoid valves that should result in simpler selection for the contractor were described recently by Willis Stafford, refrigeration sales, Detroit Controls Corp.

Stafford was a panelist at the first Product Knowledge Clinic staged here by Region 6 of the Air Conditioning and Refrigeration Wholesalers. He also explained the term "MOPD" (maximum operating pressure difference), discussed considerations in selecting and installing solenoids, and aired some service problems.

"The Air-Conditioning & Refrigeration Institute is preparing a standard for the rating of

expansion valves and the American Society of Refrigerating Engineers is preparing a standard for testing solenoid valves," he said.

"Also Underwriters' Laboratories have recently reviewed their requirements for listing and all manufacturers have been resubmitting their products for re-examination."

Stafford's talk continues:

It is being proposed that line sizes be standardized for tonnage ratings. Also, ratings will be standardized in accordance with selected pressure drops across the valve.

Usually a solenoid valve is selected to fit the required liquid line and often times the pipe size of the solenoid is

more important than the orifice size. Occasionally it is possible to choose a smaller size solenoid valve if a greater pressure drop can be tolerated.

If the liquid line is going to be long, and accumulated pressure drops due to line friction are large, then the selection of the solenoid capacity should be based on the minimum pressure drop.

If the liquid line is short and other pressure drops in the line negligible, it may be possible to choose a smaller size and tolerate 4 to 6-lb. pressure drop across the solenoid valve with a consequent greater capacity.

The ARI Standard will recommend the establishing of standard voltages in solenoid coils.

These are as follows: 115, 208, 230, 460, 115/230 v., all a.c.; 6, 12, 24, 32, 64, 115, and 230 d.c.

We would like to emphasize the availability of 208 v. a.c. coils. Using the proper coil on net work systems that have 208 v. is just as important as selecting a 208 v. motor for these systems. That is why this has been included as one of the standard voltages.

On d.c. coils it is advisable on the higher voltages to use a condenser to cut down line surge. These condensers are normally furnished by the manufacturer, along with the d.c. coil.

If a solenoid is to be changed from alternating current to direct current operation, or vice versa, be sure to also change the spacer rings that keep the coil evenly spaced from the guide tube assembly. These rings differ for the two currents and are not interchangeable.

Solenoid coils on refrigeration

should be moisture-proof. The failure of solenoid coils in refrigeration applications is due many times to the infiltration of moisture and the breakdown of the insulation.

Most coils are available in moisture-proof coatings and should be used. This is particularly important where the solenoid valve is to be located in a refrigerated space.

On the off cycle, when the solenoid cools, moisture will condense on the surfaces and, if the coil is not moisture-proof, it will soon be infiltrated by moisture and a burn-out will result.

For steam applications, silicone wound coils are available. This means that much higher temperatures can be tolerated in steam coils than formerly. Be sure when applying a solenoid valve to a steam system to use these high temperature protected coils.

### M O P D

The term "MOPD" is used to refer to the lifting ability of a solenoid valve and means maximum operating pressure difference. In other words, the number of pounds per sq. in. between the inlet pressure and the outlet pressure that the valve will open against.

Underwriters' requirements have established that the MOPD be given at 85% of the normally rated voltage supplied to the coil. All nameplates on solenoid valves will indicate the MOPD which means that this is the pressure difference that the valve will operate at 85% of the nameplate voltage.

MOPD is not to be confused with safe working pressure. The safe working pressure of a solenoid valve means, as the statement implies, the total line pressure to which the solenoid valve can be safely subjected.

### INSTALLATION

There are several things to consider when installing a solenoid valve, after the proper selection has been made. Many solenoid valves now come in sweat connections and will be subjected to heat when they are installed. Always remove the coils from these valves before installing them so they will not be damaged by the heat from the torch.

Also, many solenoids now contain synthetic materials for seats and some of these may also be damaged by the soldering torch. Usually, such solenoids are so tagged and the parts containing the synthetic

(Concluded on next page)



**PROVED DEPENDABLE...** When you need a refrigerant, be sure to see your complete air conditioning and refrigeration wholesaler... and then be sure you always ask for "Freon". Choose "Freon" and you choose a refrigerant backed by more than 26 years of Du Pont technical and manufacturing leadership. Choose "Freon" and you choose a refrigerant that sets the industry's standard for purity and dryness.



**FREON** REFRIGERANTS

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"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon refrigerants.



**SIGHT GLASSES**  
for Air Conditioner  
Refrigerant Systems

Quick visual checks on refrigerant can be made with Pyrex sight glass installed on the liquid line. Shows under or over charging, speeds servicing. Write Glass Division.

**SWIFT**  
Lubricator Company, Inc.  
1 Glass St., Elmira, N.Y.



## Solenoid Valve Selection--

(Concluded from preceding page) material must be removed before the torch is applied.

Be sure that the voltage of the line to which the solenoid will be connected matches the coil voltage. Many times, this precaution is not taken and a burned out coil is the result.

All possible precaution should be taken to keep foreign matter out of the solenoid valve during installation. Many solenoids have failed because of dirt, shavings of metal, or pieces of solder lodging inside the valve.

It is a good practice to install a strainer ahead of all solenoid valves to protect them from foreign matter. Many solenoids now have built-in strainers, which provides this protection.

### SERVICE

Probably the most frequent solenoid failure occurs because of the varying voltages to which the coil is subjected. Unfortunately, these varying voltages are very often difficult to determine. Many times, when the serviceman arrives on the job, the low voltage that caused the solenoid valve to fail no longer exists and he can find no apparent reason for the failure.

It is well to remember that a solenoid valve must have full voltage at the instant of opening. If, for example, a solenoid valve attempts to open at a period when the voltage is low and then the voltage immediately increases but without interruption of current, the solenoid plunger still will not lift off the seat, until the coil has been deenergized and another opening attempt has been made.

This causes confusion because the user of the equipment very often will hear a solenoid valve humming after it has attempted to open on low voltage and thus will turn off the current to the solenoid valve.

When the serviceman appears and turns on the current again the voltage may be normal and the solenoid valve will work properly—if the coil has not been damaged. One answer to this problem is a recording volt meter which will catch these variations in voltage.

Many solenoid valves now contain internal strainers. When strainers become blocked the solenoid stops flowing. Some of these strainers are at the inlet connection and form part of the flare face on SAE connection valves. These are easily accessible by removing the inlet line

connection and removing the strainer for cleaning.

Other solenoids have the strainer inside the body itself. When this type of strainer is encountered it is necessary to remove the coil and guide tube, then lift out the strainer.

Larger solenoid valves usually have a manual opening stem at the bottom of the body. This consists of a packed valve stem, which can be turned into the body to manually lift the piston from the seat in the case of power failure or coil burn-out.

Quiet often, this valve stem has been mistaken for an adjustment and has been turned part of the way in, thus preventing the solenoid from closing properly. All manual lift stems should be left in the full out or open position.

Finally, never operate the

solenoid with the coil cover removed. The steel coil cover forms a part of the magnetic circuit. A solenoid valve is an electromagnet and, when energized, an attempt is made to reduce the air gap through which the magnetic lines must pass.

The steel housing, surrounding the coil, is part of the magnetic circuit. If this cover is not in place the air gap is increased and the resistance to flow of magnetic lines increases, causing a higher than normal wattage draw through the coil.

Solenoid valves operated without coil covers for any length of time will cause coil burnouts quickly.

### Firm Ups Capacitors

SOUTH PLAINFIELD, N. J.—Cornell-Dubilier Electric Corp. disclosed it will boost prices of "practically our full line" of capacitors by 7% on March 1. It was hinted prices on other items might go up in the near future.

### 1,888-Mile Service Call —Motor Needs Oil

LA CROSSE, Wis.—The Trane Co., manufacturer of air conditioning and heating equipment, has always taken pride in its far-flung service organization—and its reputation to service a job no matter what.

But when Jim Mack submitted a report covering a 1,888-mile service call, there were some raised eyebrows—especially since the job in question was only 180 miles away from Mack's Louisville, Ky., headquarters.

This is what happened.

Mack flew to Evansville, Ind.—a 36-minute hop—was met by a contractor and driven 55 miles to the job site at Petersburg, Ind.

On the return flight the pilot was attempting to land on a new runway at Louisville only to dis-

cover it was under construction. The pilot pulled up for a second try as fog descended on the airport.

Unable to land, the plane flew non-stop to La Guardia field in New York. Mack flew back the next morning. Total mileage—1,888.

"And all for a motor that needed oiling," was Mack's comment.

### Abandoned Ice Box Claims 2 More Tots

SAN ANTONIO—Two young children died here recently after being trapped several hours in one of three abandoned ice boxes in their yard, it was reported here.

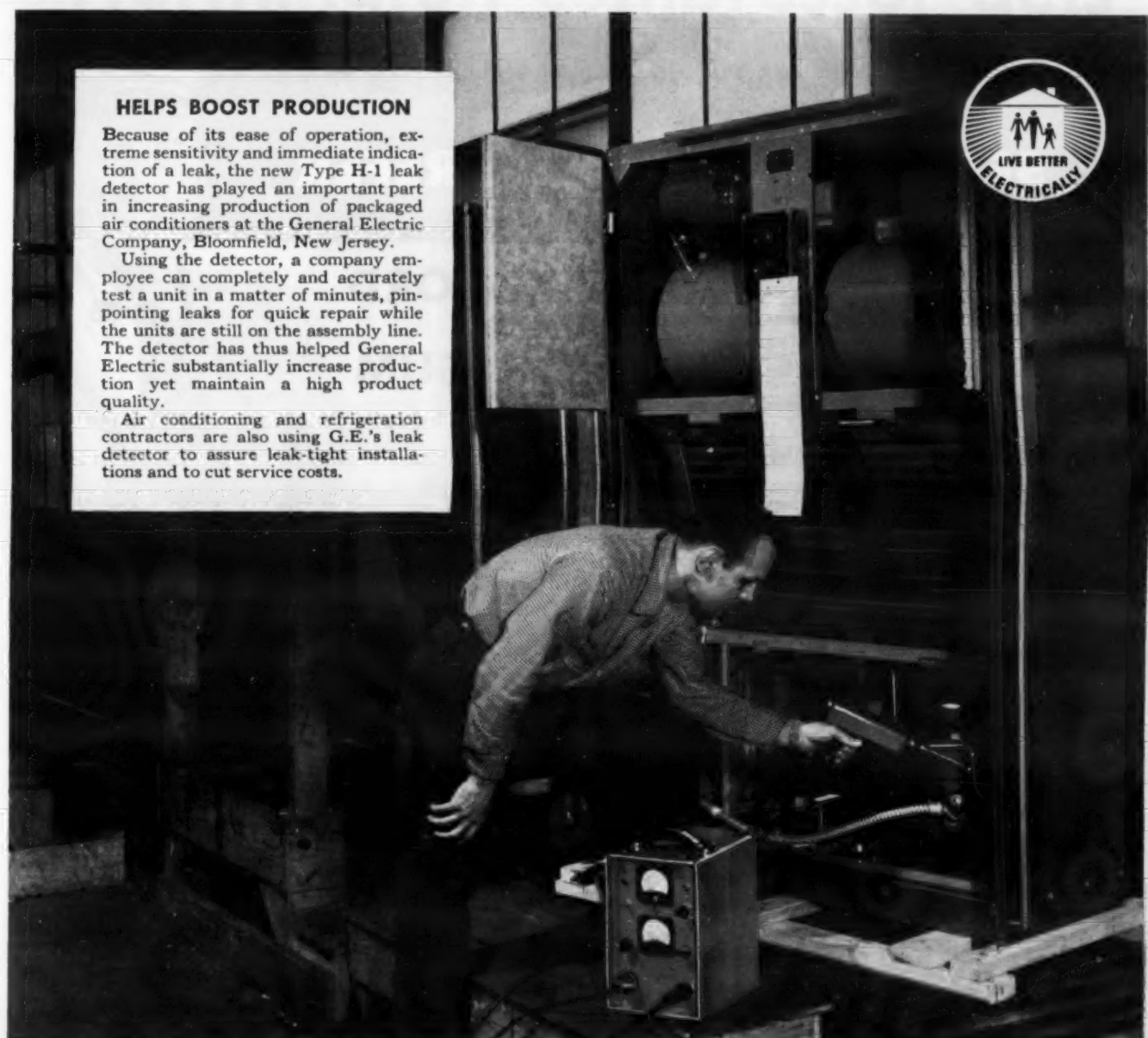
Grover Earl Emery, 5, and his sister, Ellen Irene, 4, were missed by their father, who works nights, when he awoke about 3 p.m.

### HELPS BOOST PRODUCTION

Because of its ease of operation, extreme sensitivity and immediate indication of a leak, the new Type H-1 leak detector has played an important part in increasing production of packaged air conditioners at the General Electric Company, Bloomfield, New Jersey.

Using the detector, a company employee can completely and accurately test a unit in a matter of minutes, pinpointing leaks for quick repair while the units are still on the assembly line. The detector has thus helped General Electric substantially increase production yet maintain a high product quality.

Air conditioning and refrigeration contractors are also using G.E.'s leak detector to assure leak-tight installations and to cut service costs.



QUICK AND ACCURATE leak checks of equipment can be made on the assembly line as well as at customer's installation.

GENERAL ELECTRIC'S PORTABLE LEAK DETECTOR HELPS CONTRACTORS . . .

## Make Jobs Leak-Tight; Cut Service Costs

Service repair reductions of 85% have recently been reported by a G-E Leak Detector user in Michigan who installs air conditioning equipment. Similar savings of time and labor can be yours when you use General Electric's Leak Detector to assure your customers a leak-tight initial installation of reciprocating, rotary or centrifugal compressors; household, commercial or industrial refrigeration systems. And you can handle service calls faster and more effectively during the busy summer months by using this simple instrument to "sniff out" troublesome leaks in installations which you service.

Existing light has no effect on the efficiency of your inspection procedure with the General Electric Type H-1 Leak Detector and even unskilled operators can find leaks so small that in 100 years, only one ounce of Freon\* gas would escape.

A true leak signal is assured because the Type H-1 detector automatically offsets slow changes in background concentrations of halogen gases. Only a true leak of halogen gas causes a response. Leaks are indicated by an instrument dial as well as by a variable-pitch loudspeaker or earphones.

Readily portable, the unit weighs only 24½ pounds. It is well suited to use in your shop as well as for service testing in the field wherever alternating current is available.

For more information, call your G-E Apparatus Sales Office or write for bulletin GEC-233 to Section 585-55, General Electric Co., Schenectady 5, N.Y. \*Registered trade-mark of Kinetic Chemicals Division of E. I. duPont de Nemours & Co., Inc.

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**UL MASSIVE DEPTH FILTERING!**

**FILTER-DRIERS**

Super-Flo's massive fibreglass depth filter and a molded drying element increase foreign matter, moisture and acid removal. Write for low prices.

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**REMCO INC.**  
ZELIENOPLE, PA.



## Inside Dope

By GEORGE  
F. TAUBENECK

(Continued from Page 1, Col. 1)

ably won't be long before we have the clue to cancer and can checkmate it with pills. Same prediction can be made for heart diseases of all kinds. It's just a matter of time.

Furthermore, our doctor shortage probably can be alleviated by electronic "brains" which will diagnose and prescribe!

And with pills to relieve everything from worrying about what competitors are doing to amino acid compounds which will make a man of 60 feel like 20 again, what a world we'll have!

### Better and Cheaper Stuff

To proceed from the animate to the inanimate, strides in the

direction of new man-made materials border on the fabulous. Just a few weeks ago Shell Oil announced that irradiation of petroleum is giving birth to a whole new family of plastics, with properties which make previous plastics seem anemic. These new compounds run the gamut from replacing structural steel for skyscrapers to materials which will make space travel feasible.

It is predicted these new synthetics will be so cheap and easy to fabricate that the clothes washer will become obsolete. We'll just throw away our shirts and sox after one wearing.

In that connection, supersonic sound-wave cleansing not only will keep a house dust-free, but automatically will flick the mud off children's shoes before the kids burst into the house from outside!

New low-cost materials will bring prices down, too, and plenty. No longer will the steel

workers' union be able to set off a whole new round of inflation every year, because no longer will steel be the key to our entire economy.

Furthermore, a-spawning families of synthetics will simplify manufacturing processes. Instead of the complicated assembly of an automobile or refrigerator from hundreds of finely-machined parts, major sections will be cast whole, in huge gobs.

Miners may become a vanishing race. More and more materials will be made (synthesized from chemicals).

### Free as the Sun

As everybody figures, atomic energy eventually will cut power costs enormously. Roger Kyes of General Motors even forecasts that individual homes will have their own atomic power plants. This might seem to be bad news for the public utilities, at first glance—but they'll have

other roles to play, and other tools with which to play. Among those "other tools"—refrigerated transmission lines which may revolutionize the electric power industry by slashing costs astoundingly.

Also, it now appears that the big steam generating plants will become obsolete, likewise waterpower. Thus the political debates between government dam enthusiasts and private power advocates may seem silly in retrospect. Likewise worry over Arabian oil and the Suez Canal.

Three new sources of cheap energy visible over the horizon include these obsoleters:

1. Direct conversion of atomic energy into electricity—without intervening steam.

2. The fuel cell—combinations of chemicals and gases to produce enormous quantities of electricity from a tiny unit. It would require several books to

go into this development, but some think it will put atomic energy out of business before it gets well started!

3. Solar energy. Here is the real jackpot. "Free as the air" may be replaced as an expression by "free as the sun." When the sun's rays are harnessed effectively, *as they will be*, power charges may be next to nothing.

In the meantime, radiant heat will keep football watchers cozy in outdoor stadiums, and allow us to sleep without blankets. Also, automatic controls will heat and start your car on a cold winter morning, park it automatically, even drive it! Portable two-way television will supplant baby sitters. And meals will be cooked by telephone.

Instantaneous communication—by telephone or wristwatch two-way radio and television—anywhere in the world. These expectations no longer are news. They're operating daily in the comic strips. And our sons take their eventuality for granted. So do electronics engineers.

Likewise, almost instantaneous transportation won't be surprising. That "flying carpet" of the Arabian Nights tales almost is with us already. We'll probably call it a Monocopter.

Personal transportation at 25,000 miles an hour on this globe is being crystal-balled. Space travel at the speed of light actually has been postulated. Einstein had a formula for it, and a young California physicist was quoted recently that, given a "crash program," he could make it a practicality.

The latest table-talk among the rocket and missile men has to do with the physics (and metaphysics) of photon propulsion: thrust for a space vehicle derived by shooting incredibly concentrated beams of light (photons) from its tail. Result—speeds surpassing that of light. Our authority for this statement? The Martin Aircraft Co. of Baltimore.

### Instead of Killing Each Other, We'll Kill Time

Already there is reason to hope that the H-bomb, with its power to obliterate an entire nation, has forestalled a World War III.

Thanks to automation—plus the coming new power sources and materials mentioned previously—we should enjoy leisure to an undreamed of degree.

Our fathers worked six days a week. We work five now. For our sons the four-day weekend seems a cinch, thanks to automation.

Those few examples of automation in factories "Dope" has seen already indicate that elec-

(Concluded on next page)

## Have you discovered why SERVICEMEN NOW PREFER

### Mortite CAULKING CORD and CAULKING GUM

for every Sealing Job?

Acceptance Proves It! From coast-to-coast refrigeration service and maintenance men have discovered two great MORTTELL products which give them price, convenience and quality advantages unmatched by any other compound on the market today. Now, sealing and caulking jobs are finished faster, better and at much less cost than ever before!

"Tool Kit" Size! Both Mortite Caulking Cord and Mortite Caulking Gum come in handy cylindrical containers—easily fit into any crowded tool box, large or small. These compact containers have been designed by working refrigeration servicemen to eliminate product waste resulting from flimsy, bulky packages.

#### THESE FACTS TELL THE DIFFERENCE!

**MORTITE CAULKING CORD**— $\frac{3}{16}$ " rope-like strands always retain the consistency of modeling clay. Non-staining, Mortite White in color—may be painted immediately after application. Three compact 8-strand 16-ft. rolls can be unwound one or more strands at a time without unwinding entire roll.

**MORTITE CAULKING GUM**—Provides the perfect answer for the serviceman who needs a bulk caulking compound to hand mould into beads, wads, gaskets, etc. One pound slug ( $2\frac{1}{2}$ " x 6") never cracks or hardens—adheres to any clean, dry surface through normal temperature ranges.



Mortite Caulking Cord or Mortite Caulking Gum will do the job better than your present caulking compound at a fraction of your present cost. Write today for complete information about these two products and the complete line of Mortite refrigeration products.

**JW Mortell**  
COMPANY

Makers of Famous No. 10 Tape and Mortite

J. W. MORTTELL CO.  
575 South St., Kansas City, Mo.

O.K! Send me full information about the complete line of Mortite refrigeration products.

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Today!

**U.L. & A.S.M.E. WATER-COOLED CONDENSERS** 1/2" TO 18" and **LIQUID RECEIVERS** for **EVERY REQUIREMENT** **STANDARD REFRIGERATION CO.** 332 S. Wayne, Dept. C Chicago 12, Ill.

Write for our **NEW Catalog**



## Inside Dope

By GEORGE  
F. TAUBENECK

(Concluded from preceding page)  
tronic brains (coupled to machines and cheap power) can do most of the world's work.

Their further development will give us more time not only to have fun—but to perfect human relations—which have lagged far behind scientific advances thus far. Hence, hopes for peace abound.

### How To Guide Your Grandson

At this moment our Future would seem to belong to the scientists. If you have a boy of high school or college age, by all means encourage him to latch onto some branch of physics, chemistry, electronics, engineering.

To the lads and lassies of junior high school age who are going to their first parties, however, it might be wise to stress social activities. The future belongs to those who can persuade, entertain, and get along well with their fellowmen and women.

That New Age of Leisure is the key and clue to their opportunities.

Thanks to rapid acceleration of science: doctors, lawyers, engineers, and soldiers may be less frantically needed in the 1970's than now.

Truly great careers will be open to young folk who can communicate pleasingly. Teachers, preachers, entertainers, writers, speakers, diplomats—yes, and politicians—will be in highest demand during the coming:

Era of Golden Abundance and Leisure.

### Radiation Center Opened In New York

NEW YORK CITY—Radiation Applications, Inc. recently announced opening of the first radiation center in the metropolitan area to be made available to industry for commercial research and development.

The facility contains a cobalt-60 source of gamma radiation for use in experimentation and processing products by irradiation on a service contract basis.

Irradiation by gamma rays can make polyethylene plastic more resistant to high temperatures and change its electrical qualities or destroy insects and micro-organisms to preserve foods and sterilize drugs.



## Space Heating Discussion To Lead Power Conference Talks Mar. 27-29 In Chicago

CHICAGO—A discussion of space heating will be a feature of the American Power Conference to be held March 27-29 at the Sherman hotel here.

Sponsored by the Illinois Institute of Technology in cooperation with 14 universities and nine local and national engineering societies, the conference is "to provide a forum for exchange of information in power generation, transmission, distribution, and utilization."

Wednesday, March 27 from 2 to 5 p.m. is the time set for the space heating discussions under

John I. Yellott, executive director, Association for Applied Solar Energy, chairman. Co-chairman will be Gil Freyder, engineer for the Commonwealth Edison Co. of Chicago.

"The Place of the Heat Pump and Solar Energy in Space Conditioning," constitutes phase one of the talks. R. C. Jordan, chairman, department of mechanical engineering, University of Minnesota, will speak.

Phase two is "Electric Heating in the Tennessee Valley—A Pattern for the Future," discussed by W. R. New, super-

visor of Special Studies Section, Div. of Power Utilization, Tennessee Valley Authority.

Third part of the program will be "Air Conditioning with the Compound Heat Pump," covered by Sidney Miner, industrial sales manager, central district, York Corp.

The three papers will be among approximately 85 to be presented in the course of 23 sessions of the three-day meeting.

Cooperating technical societies include the American Society of Heating & Air-Conditioning Engineers.

Inquiries concerning the meeting should be addressed to E. R. Whitehead, IIT, 330 Federal St., Chicago 16.

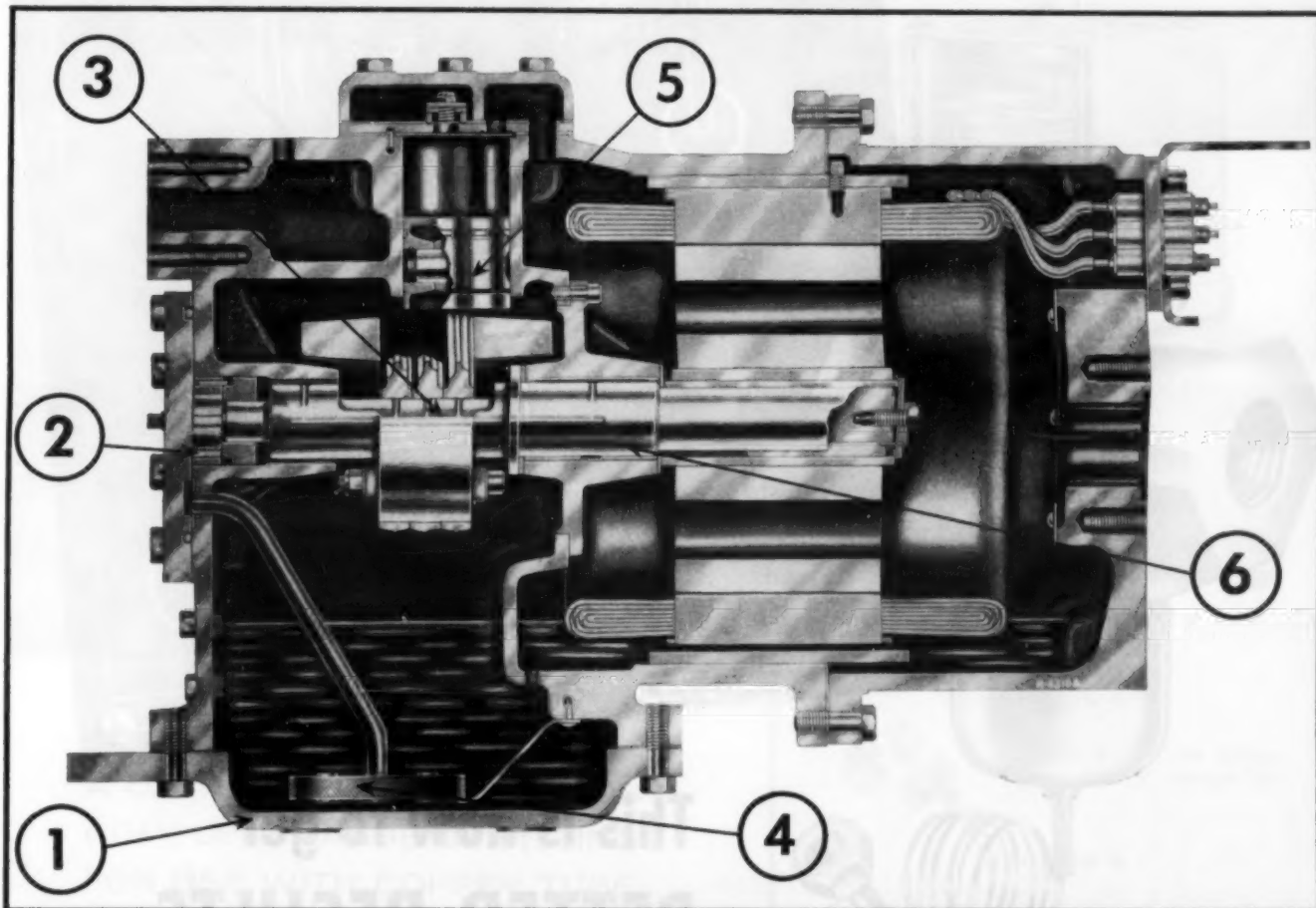
## New Firm To Create, Maintain Cooling, Heating Distribution

GRAND RAPIDS, Mich.—Earl Palmer, A. L. Kawsy, and K. H. Luse have formed the sales, engineering, and advertising firm, Lord & Palmer, Inc., with headquarters here.

Lord & Palmer will specialize in creating and maintaining air conditioning and heating distribution on a national basis, said Palmer, who with his associates, was formerly with the air conditioning division of Gibson Refrigerator Co. Regional personnel will be located in all major market centers.

Palmer believes that the new organization is unique.

## Worthington compressor gets 7 new design features



Air conditioning and refrigeration manufacturers, here's news! Now you can offer the best-designed, best-engineered, field service-hermetic compressor on the market as the heart of your air conditioner, liquid chiller, or commercial refrigeration system. Sizes from 2 to 7½ hp. Look at these new features that help make this Worthington compressor the sales-clincher you've been looking for.

(1) Recessed crankcase increases oil capacity. (2) Positive action gear pump for forced feed lubrication of main and crankpin bearings through (3) rifle drilled drop forged crankshaft. (4) Aircraft type oil filter. (5) Light weight aluminum pistons and rods for balanced reciprocating forces and smoother operation. (6) Precision-bored main bearings for smooth operation, long life. (7) Reduced maintenance, with non-selective fits for all renewable parts.

Send this convenient coupon for complete product and application data, performance curves, dimensional drawings—compiled in Worthington's OEM handbook.

A.6.79

Worthington Corporation  
Air Conditioning & Refrigeration Division  
Section A.6.79-AC, Harrison, New Jersey

Gentlemen:

- ☐ Please send me your OEM Handbook today.  
☐ Please have a salesman call for an appointment.

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Zone \_\_\_\_\_

State \_\_\_\_\_

# WORTHINGTON



CLIMATE ENGINEERS TO INDUSTRY,  
BUSINESS AND THE HOME



## Commercial Distributor's Customer Services Are Varied

*Firm Is Prepared To Select Market Site, Estimate Potential, Lay Out Entire Store, and Even Handle Problems of Financing*

PORTLAND, Ore.—A distributor of commercial refrigeration equipment in today's scheme of things must be more than a firm that takes orders for food store equipment and gets it installed properly. In fact, to do any kind of a volume-building job it must literally be able to plan a whole new store operation for the food merchant.

A prime example of this "modern" type of distributor operation is the Portland Fixture Co. here. Confining its operations strictly to the commercial refrigeration and store fixture field, this company does a \$1 million annual volume of business, and has averaged better than a carload of equip-



LEFT: Emery E. Wilson and Louis Zimel in Wilson's office.

ment per week from the McCray Refrigerator Co. plant in the past year.

Directing the activities of the firm are Emery E. Wilson, a veteran in the store fixture business, and Louis Zimel, a

young man who came to the Northwest from Cincinnati, where his early business experience was in the grocery field, a factor which has proved most helpful in his present occupation.



THERE are 33 ft. of adjustable shelf dairy cases in Young's Food Mart, Inc., Portland, Ore., one of Portland Fixture's recent installations.

There are two main forms of activity which might be termed principal factors in the Portland

Fixture Co.'s volume-building operations. First and foremost is the fact that the distributor has its own store planning department.

This department has more functions than merely laying out a floor plan and indicating where the fixtures should be placed. In actuality, the store planning department is capable and qualified to start a retail food store from the selection of the plot of ground on which it will be located, to the completion of a supermarket type of store.

### Cooperates with Wholesale Grocers

A second principal activity which Portland Fixture has found extremely important is that of working cooperatively with wholesale grocers. The wholesale grocer has also become something much more than an order-taker. A recent survey of the activities of this group showed that nearly all of them are active to some degree in assisting food merchants with new stores, and that 66% of them have store engineering departments or personnel.

So, Portland Fixture can develop a systematic approach to selling equipment for a new retail food store, with an almost certain guarantee of customer satisfaction, in an approach that goes something like this:

### Example of Approach

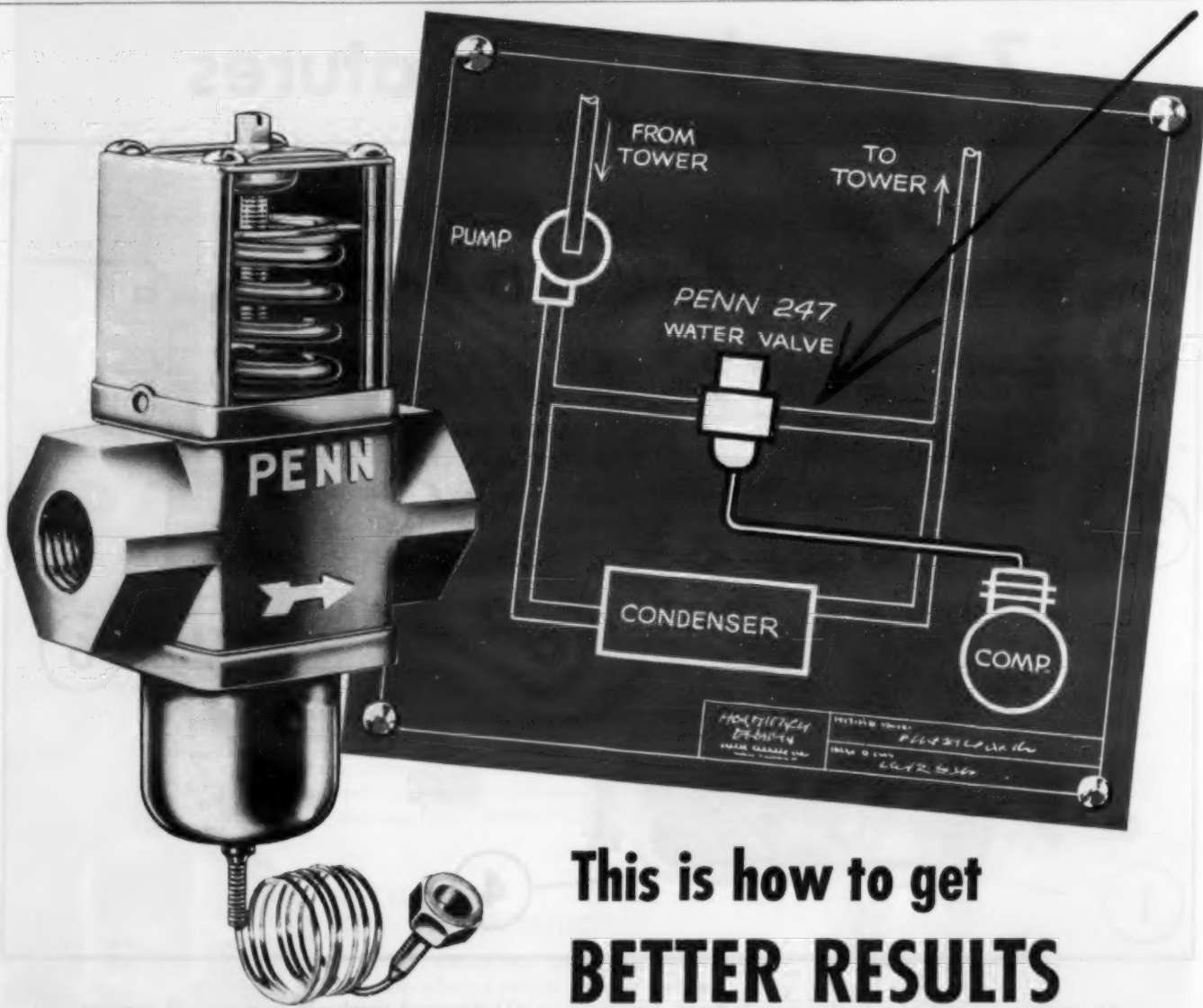
1. A contact with one of the many wholesale grocery firms with whom the distributor cooperates for mutual benefits, to create the interest of a retail food store customer in a location or situation which the distributor and wholesale grocer have investigated and approved.

2. Through experience they are in a position to tell the prospective new store operator how large a store can be operated profitably in a certain location, going through gross volume figures to the ultimate new profit picture.

3. Then a tentative store plan is laid out from which the prospect can analyze the operations and fit it to meet his personal requirements. (This gives an individual and personal touch to each store.)

4. At this point a lot layout has been made and the location of the building and the parking space on the lot has been established.

5. When the store planning (Continued on next page)



## This is how to get BETTER RESULTS FROM WATER COOLING TOWERS

On water-cooled refrigeration and air conditioning jobs, the cooling water temperature must be right to maintain correct refrigerant head pressure for highest efficiency.

But, when the load varies or outside temperature and humidity are low, the cooling water temperature drops. Then the supply of cold water to the condenser may greatly exceed requirements which lowers head pressure and compressor capacity.

A simple solution to this problem is to install a Penn Series 247 reverse-acting water valve in

a by-pass around the condenser as shown in above diagram. Then, if head pressure drops, the valve opens to allow more water to flow through by-pass. As head pressure rises, the valve modulates to restrict flow in by-pass and supply more cooling water to condenser.

Result? Correct head pressure at all times for more efficient operation of commercial refrigeration and air conditioning compressors. Use this method, it will save money . . . get the simple installation data from your wholesaler or write the Penn factory.

**PENN CONTROLS, INC.** Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N. Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

For more information about products advertised on this page use Information Center, page 26.





AFTER Young's Food Mart was increased in size, this 11-ft. frozen meat case was installed in line with 56 ft. of rear fill fresh meat cases without superstructure.

## Distributor's Customer Services--

(Continued from preceding page)

has been completed and accepted by the customer, the order has been taken. Then, with the guidance of the distributor, an architect is consulted about the building. The contracting for the actual construction of the building is usually handled on a bid basis.

6. Once the building has been completed, the plumbing, electrical, and refrigeration contractors are called in to complete the installation of equipment. Each are usually furnished with a layout of how the equipment is to be installed.

7. During the final stage of the program, Portland Fixture Co. keeps as much control of the job as possible, and coordinates the work of everyone concerned to make certain that the final completion date will be met.

Most of the financing for the store equipment is done through local banks, but in some instances Portland Fixture Co. will carry the paper.

### Refrigeration Service Work Has Fixed Rate

All refrigeration service work is contracted for at a fixed rate, and, where feasible, one service and installation organization does all of the installation work. The volume of business being done by the distributor has kept one such firm working on McCray installations only.

Portland Fixture Co.'s own place of business is a three-story building with a complete basement. In this building is a showroom which measures approximately 60 by 100 ft. The distributor aims at keeping at least 20 pieces of equipment for showroom purposes, and at least 30 more pieces of McCray commercial refrigerator models in stock at all times. The purpose of the stock is to be in position to install a complete market if necessary.

Seven salesmen work out of the Portland office. In addition, the distributor services the following five dealers: Olson & Quick Co., Eugene; Smith's Refrigeration, Pendleton; B. E. Bowman, Portland; Newport Refrigeration, Newport; and Columbia Refrigeration Service, The Dalles.

The Portland Fixture Co. offers its dealers all of its extensive store planning and other facilities, for use in the dealers' own sales operations.

### Thinks Success Due To Salesman Training

The management of the company believes that much of its success is attributable to the

field. The new salesman starts out "inside," learning procedures, equipment, competition, store planning, and other fundamentals.

When this "basic training" is completed, one of the directors will take the new salesman and familiarize him thoroughly with a new market about to be installed. Then, under the careful supervision of the director, the new salesman is made responsible for the entire installation—location of cases, gondolas, and shelving; layout of such special spots as a pre-packaging room; installation of plumbing, electricity, and other utilities; and the 101 details that go into a completed job. Thus the new salesman "goes through with" all the details of completing a new market job.

This training period may continue for a year or more. During this time leads on smaller installations are turned over to the salesman to develop, and he

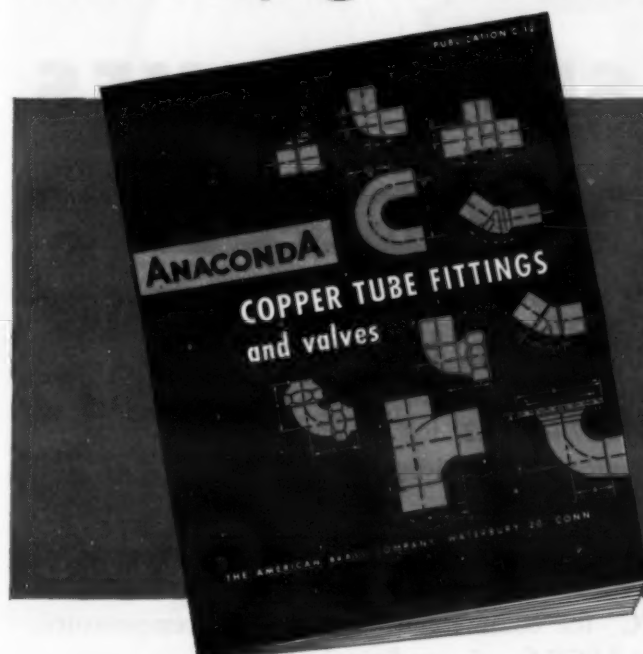


BEVERAGE and dairy cooler in Tops All Foods of Portland has 20 "Servue" king size glass doors for self-service from the 10 ft. 6 in. by 39 ft. 11 in. by 8 ft. 6 1/2 in. unit.

learns the details and "gets the feels that the salesman is competent to handle anything that

When the director who has been supervising this training comes along, the salesman is (Concluded on next page)

## Send for your copy of this new 112-page book today



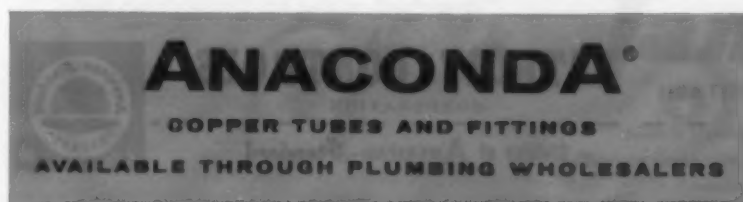
### A CATALOG LISTING THE MOST COMPLETE RANGE OF FITTINGS FOR USE WITH COPPER TUBE.

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- Suggestions for installation

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CITY.....ZONE.....STATE.....

## CONTENTS

### SECTION 1



Wrought-Copper Solder-Joint Fittings. Nominal sizes 1/8" through 4".

### SECTION 2

Wrought-Copper Solder-Joint Fittings for Refrigeration and Air Conditioning Use. Actual OD sizes 3/16" through 4 1/4".



### SECTION 3

Cast-Brass Solder-Joint Fittings. Nominal sizes 1/8" through 12".



### SECTION 4

Cast-Brass Solder-Joint Drainage Fittings. In all standard combinations from 1 1/4" through 8".



### SECTION 5

Brass Fittings for Flared Tubes. In all standard combinations, nominal sizes from 1/8" through 3".



### SECTION 6

Flanged Fittings. In sizes to meet all standard requirements.



### SECTION 7



Accessories. Hangers, Flanging and Sizing Tools, Tube Straps.

### SECTION 8

Cast-Brass Valves. Full range of standard sizes and combinations.







PRODUCE department of Tops was laid out like the meat section with preparation area and latest type of setup and equipment for packaging produce. There is 60 ft. of low-back produce cases designed for rear loading of items.

## Distributor Offers Services--

(Concluded from preceding page) major new store or renovation project.

In their work on closing sales for smaller installations in the training period, the salesmen learn the value of these small jobs, and continue to prospect for and sell these smaller jobs when they aren't involved in a

tor's salesmen "in on the deal" weeks ahead of competition, but also because the grocer will often listen to and accept a grocery salesman's recommendations on remodeling and equipment plans.

Another factor in the continued growth of Portland Fixture Co. comes from the distributor's not only keeping up with innovations in food store design and merchandising trends, but also in providing some of its own innovations. A couple of recent jobs illustrate this point.

Young's Food Mart, Inc. in Portland was increased in size from an original store size of 3,000 sq. ft. selling area to 10,000 sq. ft., with a total area of 13,000 sq. ft. Additional space for a drug and variety store, cafeteria, and bakery added up to an over-all shopping center area of 21,000 sq. ft. Volume of the Food Mart is in the \$30,000 a week area.

## Renovation Features

Here are some of the special features of the renovation:

A mezzanine for office space, employees' lunch room and waiting room, with enough floor space for special store promotion attractions such as orchestras.

Drug and variety store separated from the food retailing area by a common lobby which provides entrances for east and west sides of the building and also provides space for bakery, cafeteria, and other merchandising and special displays.

A package pick-up station, and 200-car parking lot—which can be expanded to accommodate 500 cars.

Frozen food and produce departments set up as a "store-within-a-store" and advertised as such.

Food merchandising equipment installed includes 66 ft. of produce cases with high mir-

rored superstructure; 33 ft. of adjustable shelf dairy cases; 55 ft. of island display frozen food cases; 22 ft. of ice cream cases with shelf in low superstructure for display of related items; 11-ft. frozen meat case in line with fresh meats; 56 ft. of fresh meat cases without superstructure for rear fill; and a beverage box with 12 glass doors.

Another recent installation, the Tops All Foods store, has a total area of 17,000 sq. ft. and is a unit in a shopping center located in a suburban area. It is completely 100% self-service and is doing a weekly volume of over \$40,000.

## Unitized System Feature

Big feature of this market is the unitized system employed in the produce department—a pre-packaging operation that is seldom seen in the area.

The produce department was laid out like the meat department, inasmuch as both have a preparation area and the latest type of set-up and equipment for packaging produce is used.

This market is all McCray equipped and consists of: 52 ft. of fresh meat cases, in line with 22 ft. for frozen meats, without superstructures for rear loading; 33 ft. of adjustable shelf dairy cases; 66 ft. of a new type of low back produce cases designed for the rear loading of packaged produce; 58 ft. of frozen food cases with shelf for related items in a low superstructure; and 22 ft. of ice cream cases.

The coolers installed include: meat, 12 ft., 5 in. by 35 ft. 5 in., by 8 ft 6 1/2 in.; produce, 8 ft. 7 in. by 30 ft. 6 in. by 8 ft. 6 1/2 in. Frozen food 10 ft. 6 in. by 12 ft. 5 in. by 8 ft. 6 1/2 in.; and a beverage and dairy cooler 10 ft. 6 in. by 39 ft. 11 in. by 8 ft. 6 1/2 in., which has 20 Servue (king size) glass doors for self-service.

## Wolverine Opens Pittsburgh Depot

DETROIT—A new mill depot has been opened in Pittsburgh to serve the customers of Wolverine Tube, Div. of Calumet & Hecla, Inc., according to J. H. Smith, east central district sales manager.

The depot will stock Wolverine copper water tube, refrigeration tube, and automotive tube. Establishment of this service facility will speed shipping service to customers in western Pennsylvania, it was stated.

William Morrissey will coordinate the new operation.

# DETROIT NO. 714 LARGE CAPACITY EXPANSION VALVES

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## High Velocity Air Distribution

### Some Methods of Simplifying Design, Installation Problems Suggested by 4 Engineers

CHICAGO—A review and a brief peek into the future of high velocity air distribution systems was presented at the January meeting of the Illinois Chapter of the American Society of Heating & Air-Conditioning Engineers.

A total of 202 members and guests were present.

A panel of four engineers told about their experiences with various types of systems, the components used, and what has been learned about the characteristics of different systems and equipment.

Some recommendations were made that should simplify the problems encountered in designing and installing systems of this type in the future.

Sam Sachs, chief mechanical engineer, Skidmore, Owings, & Merrill, told why high velocity systems are growing in number each year. Sachs pointed to the high costs involved in the erection of buildings and the attempts being made to keep these costs down. The result is often a reduction in the space allocated to the essential equipment.

He also mentioned the continued rapid growth in the summer air conditioning of existing buildings and the problems involved in locating standard size ductwork for low velocity

air distribution. Another point brought out was the growing trend toward the use of perimeter heating for new multi-story office buildings.

Bill Batchelor, chief engineer, Tuttle & Bailey Co., outlined the development, application, and installation of dual duct outlet boxes. The basis for the solution of problems involving pressure reducing boxes was a maximum noise level of 40 decibels.

He pointed out that five essential requirements had to be met by the outlet box. These are:

(1) A damper that will develop a pressure drop as air is supplied from the high pressure duct system; (2) a mechanism that will provide temperature

and volume control of entering low pressure air; (3) the box should be acoustically treated for noise control; (4) air vanes that will insure a free mixture of hot and cold air streams; and (5) an adjustment for the air outlet.

William Tracy, manager, sales department, Sturtevant Div., Westinghouse Electric Corp., described the development of blowers for high velocity air distribution systems.

He said that the air foil curved bladed fan is gaining rapidly in popularity because tests show that an efficiency of 92% is not unusual. This is an increase of 12 to 14% over other types of blowers used in similar applications, he claimed.

Another advantage of the air foil blade fan pointed out by Tracy was the low noise level at which it operates.

Norman J. Janisse, field engineer, Johnson Service Co., discussed the controls needed for high velocity air systems. He recommended that mixing box dampers be designed so that air from either the hot duct or the cold duct would always be entering the mixing chamber.

Also recommended was the control of the hot duct air temperature "as this is the easiest way to control the humidity."

He pointed out that the temperature of the air in the cold duct is more difficult to control because the dewpoint of the air at the equipment must be reached to control the humidity.

He also expressed the opinion that new experiments now being conducted in many private laboratories would probably change the design of many mixing boxes being used today.

## Southern Calif. Heating, Cooling Group Names Hoyt Committee Head

LOS ANGELES—William L. Hoyt, Jr., Pasadena, Calif., vice president of the Corinth Co., was named chairman of the Speakers' and Standards Committee of the Institute of Heating & Air Conditioning Industries of Southern California.

The appointment was made by President Robert N. Hall of Long Beach.

Hoyt will direct an extensive speakers program to inform the public of relation of heating and air conditioning standards to public health and comfort as a part of a public relations plan which also includes direct consumer advertising in leading Southern California newspapers.

A special miniature house is being prepared by the institute's public relations firm.

## NEMA TV Spots Push Electric Home Heat

NEW YORK CITY—An effective and entertaining series of six 1-minute television spots based on the full-color sound slide film, "Heat Your Home Electrically," produced by The Electric House Heating Equipment Section of the National Electrical Manufacturers Association, is now available, according to Melvin Wessel, section chairman and sales manager of Cavalier Corp.

The television package utilizes much of the artwork used in the widely distributed film. It is designed to capture and hold an audience's attention while facts concerned with electric heat's advantages are presented "in amusing and convincing style."

These sound-on-film spots are available in either black and white or color. Standard copy carries through the "Live Better Electrically" theme. Tailored packages offer sponsors an opportunity to insert company names at the beginning or near the end of the presentations.

The TV spot packages are endorsed by the NEMA Electric House Heating Section and may be obtained from Continental Products Corp., 539 Vine St., Chattanooga, Tenn.

## New AMCA Member

DETROIT—The G. C. Breidert Co., San Fernando, Calif., has been elected to membership in the Air Moving & Conditioning Association (AMCA), announces G. C. Breidert, president.

The company manufactures power roof ventilators for ventilation of commercial, industrial, and multiple dwelling units.



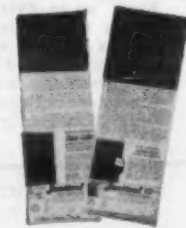
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**short-changed**  
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air-conditioning?  
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with quality JANITROL cooling!

Only Janitrol gives you both 'add on' and year 'round conditioners with the fabulous new PRIDE O' YARD air-cooled compressor-condenser unit, styled and powered to build your profits and your prestige! It's low, sleek, beautiful—completely outmoded all other units of its type in appearance, performance and freedom from service call-backs! No wonder Janitrol dealers can count on a lion's share of the business!

The excellence of design and construction that distinguishes all models in the complete Janitrol line assures easy installation, foolproof performance, complete satisfaction after the sale. And making the sale is easier, too, because your prospects know the Janitrol name plate guarantees top quality and value.

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Ask your Janitrol representative for the profit-making story on Janitrol's complete air conditioning line right away!



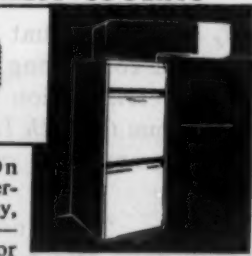
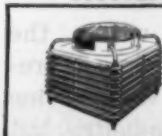
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Compare! On every count—performance, beauty, installation ease—there's more for your customers, more for you with new JANITROL ADD-ON COOLING! Beautiful PRIDE O' YARD air cooled compressor-condenser unit adds sparkling beauty to any yard, obsoletes ordinary units designed with no thought for appearance. Quiet, powerful! Compressor motor and condenser especially designed for air cooled operation. Easily teamed with most any warm air system... evaporator coil goes in duct, PRIDE O' YARD unit outside. No usable indoor space needed! 2, 3 and 5 H.P. sizes.



They'll  
Do It  
Every  
Time

by

Jimmy  
Hatlo



## Tremendous Growth Possibilities Of Commercial Refrigeration Based on 'Leisure' Foods

(Concluded from Page 1)

cube dispensers) commercial refrigeration dealers and manufacturers haven't had a great deal to get excited about for a long time. That cube machine has been a real big money-maker for a few manufacturers and quite a few dealers. But it is an exception.

Within recent memory a typical commercial refrigeration dealer enjoyed good business volume on the entire variety of specialized refrigeration products. One by one, several have slipped away from him in recent years. Items:

- (1) Ice cream cabinets are sold directly by manufacturers to dairy firms, which "rent" them (dollar a year, say) to ice cream purveyors.
- (2) Water coolers are sold "directly," also—to commercial and industrial mass purchasers.
- (3) Frozen foods (orange juice is a prime example) storage cases are bought by national distributors; then installed without charge in food stores and serviced by those national brand purveyors.
- (4) Chain stores buy commercial cases in quantities straight from manufacturers—again by-passing the local dealer.

We predict, however that within the next five years, and for a long time thereafter, commercial refrigeration will become not only a tremendous *Growth Industry*, but a bonanza for commercial refrigeration dealers.

Why? Because "the new leisure" (shorter working days and weeks for men lead their wives into seeking shorter work-periods, too) is zallooming the market for frozen foods of every conceivable description.

**Ready-cooked frozen foods** are the phenomenon of the food trade business. And soon this trend (which calls for multiplication of frozen foods storage space in grocery stores, clubs, hotels, etc.) will make previous sales volume figures for commercial refrigeration look like small potatoes.

In 1955 Americans ate up frozen food at the rate of 45 lbs. per capita, compared with 41 lbs. in 1954, and with 17 lbs. in 1949. Last year the industry packed a mountainous 4,410,000 lbs. of frozen foods of all types.

That was almost double the previous record pack.

**Home freezers sold** during the last nine years surpassed eight million, and they continue to sell at a rate of more than a million a year. Moreover, new and bigger household refrigerators, most of which now are equipped with larger freezer chests, possibly double the amount of home frozen food storage space added annually.

Grandma canned, mother opened cans, daughter thaws. Right there is the "hooker" in the commercial refrigeration business.

From a limited line of a few fruits and vegetables a few years ago, the roster of frozen foods has expanded to include more than 300 raw foods and at least 400 heat-and-serve complete meals.

**You name the variety** of pre-cooked frozen dinner you want. Your wife can buy it already prepared (frozen, of course). It takes only moments to serve it, and then she has time to join you and the family in "new leisure" activities. Mamas and grandmas of all ages and in all stations in life (domestic servants are vanishing) go for this stuff in a huge way.

Luxury frozen foods presently include cornish hens, smoked pheasants and ducks, stuffed barbecued chicken, veal and beef; plus fresh trout, chicken a la king, hors-d'oeuvres, egg rolls, exotic soups, pizza pies, macaroni, ravioli, blintzes, sauced Chinese foods, de-veined shrimp, deviled crab, breaded oysters, salisbury steak, beef goulash, lobster newburgh, shrimp creole, macaroni and cheese, spinach souffle, and potatoes au gratin, in addition to all the standard meat-and-potatoes "heat and eat" dinners any man could want. It should be obvious that quick-frozen Ten Minute Dinners soon will become "big business."

**Nowadays a recent bride** who doesn't know how to boil water can serve a sumptuous dinner beginning with a crisp oyster cocktail, and proceed to lobster newburgh or brook trout sauteed by expert chefs. Main course could be beef Stroganoff from San Francisco. For dessert she can choose from Lindy's New York cheese cake, imported Italian manicotti cheese sticks, or apple cobbler a la New Orleans from the celebrated Antoine restaurant.

And that's great news for commercial

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refrigeration manufacturers and dealers. To accommodate the acceptance (let's say: "demand") from housewives who need to conserve time, and who wish to serve more luxurious meals, food retailers will have to augment their low temperature refrigeration equipment tremendously and quickly.

**Recently John M. Toolin, an A.&P. executive** retired after 31 years of studying and analyzing food retailing trends. Here's what he predicts for the future.

"Any grocery item you can think of will be available in frozen packets—neat, heat, and eat. Food stores of the future will consist entirely of self-serve frozen foods cases."

What a wonderful outlook for commercial refrigeration men!

From now on this business may not just plod along comfortably. It could rocket!



### WANTS ICE MACHINE SERVICE BULLETINS

R. R. #1  
Tripoli, Iowa

Editor:

On pages 10 and 11 of the Jan. 21 issue of your paper. Carrier has an ad on ice machines. Is it possible to get service bulletins on those? Service bulletins would be very helpful to me. I will appreciate any help you can give me getting it. After reading means of Intro-

ducing Youth to Air Conditioning and Refrigeration careers, I thought of myself trying for 2½ years to make a success of such a career. I've found fellows that quit the work and went to work in factories. They get higher pay, have regular hours with no work on holidays, Sundays, or nights. I've been working at Refrigeration and Air Conditioning service during the summer and in winter something else. I'm always on beginners (Concluded on next page)

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## OFF THE CHEST

(Concluded from preceding page)  
pay and can't afford what other people can. I find in my part of the country top pay after a good summer about equals that of the average factory worker. I've found a lot of men working alone, that say they don't want another man because of the bookkeeping and extra work of keeping one busy. They take the jobs that pay the most money and forget the ones they don't get time for. Unions have caused me trouble too. Someday where I live refrigeration men should be in big demand. I hope to make a career of the work but I need a job where I can earn a living. I thought the writer of the article in your paper should know a few of the problems of some one trying for the type of work he wrote about. I've had resident training in Refrigeration and have completed a correspondence course.

HENRY A. LAU

### LOS ANGELES SHOWS IT HAS APPRENTICE PROGRAM

Western Union Telegram  
Los Angeles, Calif.

Editor:

"Off the Chest" Jan. 21, 1957 issue, B. A. Cameron, Local 801, qualifies NEWS statement that United Association has no apprenticeship program for air conditioning and refrigeration by pointing to apprenticeship program of Local 801 started in 1954.

Los Angeles joint apprenticeship program for refrigeration and air conditioning trades in existence since 1943 repeat 1943, approved by state underline state of California having turned out more than 200 refrigeration fitters since then, with 100 apprentices now in training.

We understand United Association is in the process of developing a national program and we are looking forward to its help and assistance.

HENRY B. ELY,  
Chairman Apprenticeship  
Committee and Executive  
Secretary RACCA So. Cal.

EUGENE H. BALLARD,  
Secretary Apprenticeship  
Committee and Business  
Manager Refrigeration  
Fitters Branch of Local 250  
United Association

### AUSTIN FORD DRAWS PAT-ON-THE-BACK

John R. David  
T/Sgt., USAF

1001 3rd St., Yuma, Ariz.

Editor:

Just received my AIR CONDITIONING & REFRIGERATION NEWS and have my hat off to Mr. Austin Ford. I thought we in the military were the only ones plagued with the problems that exist between Architects, Engineers, and Contractors. I hope that through that article someone will push the button to start the machinery rolling to alleviate this situation.

Now George, you hit on a good idea in "Dope," but I'm sure that there are a few questions that must be answered.

On Nov. 7, 1956, I wrote a let-

ter to RSES requesting information along these lines. The case in point, although not mentioned in that letter was this. I had working for me at the time, a young man, 21 years old, who had three years in the Air Force with one year left to do. Naturally, being in the Air Force myself, I tried to talk him into staying but he said he wanted no part of it. He was ready to try it on the outside. The next best thing I could do was to persuade him to stay in the profession. The man had worked for me about 18 months and I believe would eventually shape into a number 1 serviceman. The big questions in his mind were, where would he start on the outside, what could he

expect as far as jobs go, how long should he expect to serve as an apprentice before he would attain journeyman status? All of these questions may seem trivial to the old timers in the trade, but they carry a lot of weight with the young ones, the ones you pointed out in your article, we are after. I will have to agree with you that there is no shortcut to success, but it sure seems that if a person has some direct questions related to a career he should be able to receive some direct answers. Good or bad would depend on the person's interpretation of them. To illustrate, I offer the following. A 15-year-old boy knows that he can buy a train ticket in Los Angeles and be in New York City 3 days later by train. It took a billion dollar organization to make this possible but the point is, everyone understands it sufficiently that they make use of it. Isn't

there some way we can get the word out to these people who are seeking the answers. Possibly a column devoted to this subject once a month could be a starting point. In the column could be listed what the biggest shortages are manpower-wise and a possible listing of recognized schools.

I am sorry to say that I couldn't answer this lads questions. Being in the service for 16 years has put me out of touch with policy and procedure out there. I hope I haven't bored you with this and further hope that it may be the basis for one of your editorials. It may be that my being out of the states for the last four years has made this situation look like a mountain in my eyes. If so, I stand to be corrected. I will be able to see for myself next month as I return to the states then.

JOHN R. DAVID

### LONDONER LOOKS FOR ARRIVAL OF 'NEWS'

The Tack Organisation,  
Ozonair House  
Longmoore Street  
London, S. W. 1

Editor:

First of all let me tell you how much I have always enjoyed reading your magazine. I look forward to its arrival every week. Besides having one of the largest air conditioning companies over this side, we also have a separate organisation for teaching selling.

I have written many hundreds of articles on this subject over the last 22 years, and I am now compiling a book comprising the best of these articles. I should like to include in this book an article I read in your magazine, and I am enclosing a copy of it. May I have your permission to use this article please?

ALFRED TACK

It's easier to sell a Name They Know

# FRIGIDAIRE

FULL-HOME

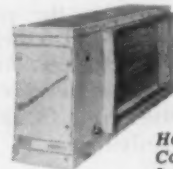
AIR CONDITIONERS



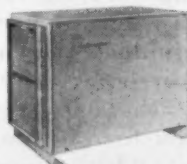
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A complete line of gas  
and oil furnaces—designed to "go-together"  
with Frigidaire  
Air Conditioning Units



Year-Round  
Conditioners 2 and 3  
ton cooling capacities,  
gas or oil



A complete line  
of air-cooled  
condensing units  
and condensers

The key to your profits is salespower. And Frigidaire has it—in products, training and promotion! That's why it's easier to sell Frigidaire—a name your prospects know and trust! Products are easier to install because they're complete units—prewired to sealed refrigerating systems to cut installation time, give a better job, fewer callbacks. Manpower! Frigidaire has it, too. Their team is experienced and close by to help you sell and service. Want to know more? Then...  
**WRITE—Commercial Sales Manager, FRIGIDAIRE DIVISION, GMC, Dayton 1, Ohio.**

#### PLUS THESE BIG SALES AND SERVICE ADVANTAGES

- **Technical Training Programs**—factory-backed application and service schools that are the envy of the industry—plus a complete continuing technical service for every dealer.
- **Sales Training**—complete schooling from "prospect getting" to "order closing."
- **Local Merchandising**—the works! Sales aids, displays, local advertising, sales promotion, co-op advertising—plus an individual dealer advertising service.
- **National and Local Advertising**—biggest campaign in Frigidaire history to make prospect preference for Frigidaire even greater!



GO FRIGIDAIRE



## Now Representing...

**Marco Industries, Inc.**—ARTHUR A. REED has been appointed application engineer to represent this firm in Michigan. He will supply specifications and give engineering advice to customers interested in motors for air-moving equipment. He also handles lines of Kramer-Trenton Co. and Resistoflex Corp.

**Dean Products, Inc.**—STEPHEN J. BENN has been added to the sales and service staff to cover Florida from headquarters in Orlando. A graduate mechanical engineer with wide experience in refrigeration, heating, and air conditioning, he is now active as a manufacturers' representative.

**Ansul Chemical Co.**—VANCE RUTLEDGE, formerly with N. O. Nelson Co., refrigeration wholesaler, as manager of the refrigeration department in the Memphis, Tenn. office, has joined this firm as sales representative in the Kansas City area. He will handle sales of Ansul "Dry-Eyes" and "T-Flo" refrigeration driers in Mis-

souri, Kansas, southern Illinois, western Iowa, Nebraska, Wyoming, Montana, and Colorado.

**Research Products Corp.**—A. R. STRUCK has been named district salesman by this air filter and humidifier manufacturer. He will serve suppliers in Oklahoma, Arkansas, and north Texas. He has just completed the firm's training program.

**Janitrol Heating & Air Conditioning Div., Surface Combustion Corp.**—EDWARD A. L. COX, JR. has been appointed sales representative in New Mexico, Arizona, and El Paso, Texas trading area. His office will be in El Paso. He formerly was with Electrical Mechanical Supply Co. of El Paso, in charge of the heating and air conditioning department.

**Cleaver-Brooks Co.**—J. U. KAYE & CO., Pittsburgh, has been appointed manufacturer's representative for the sale of C-B's boilers in western Pennsylvania, eastern Ohio, West Virginia, and two

counties in the state of Maryland.

**Mitchell Mfg. Co., Div. of Cory Corp.**—WILLIAM J. BAGLEY has been named Missouri district sales representative for packaged air conditioners. He formerly was with Shaw Refrigeration Co., St. Louis. KARL J. BERLIANT has been appointed district sales representative, responsible for packaged air conditioner sales in northern Illinois and Wisconsin. He previously was district sales manager for Whitehall Engineering Co., Chicago distributor.

**L.O.F. Glass Fibers Co.**—WILLIAM H. SAMBERG has been assigned as a sales representative in the Cleveland office. He formerly was with McGranahan Distributing Co. and Kenwood Supply Co., Toledo. WILLIAM B. TURLEY, JR. was named to the New York City district office as a sales representative. He had been associated with Burroughs Corp.

**Lima Register Co.**—Appointment of JOHN "JACK" THOMAS as salesman to cover Florida, Alabama, Mississippi, Georgia, North and South Carolina, Louisiana, and Virginia has been announced. He

previously was with Florence Stove Co. He resides in Charlotte, N. C.

**Water Service Laboratories, Inc.** (New York City)—AARON MISROCK has been appointed engineering sales representative in the Richmond, Va. area. He was formerly associated with Permutit Co. and Cochrane Corp.

**Gibson Refrigerator Co., Div. of Hupp Corp.**—Three more distributor appointments have been announced by the company. GAS & ELECTRICAL EQUIPMENT CO., Oklahoma City, has been named a full line outlet. It already was a Gibson window air conditioner distributor. The company will cover most counties in Oklahoma. HYNES BROTHERS, INC., Washington, D. C. has been appointed a full line distributor for 17 Virginia counties, three counties in Maryland, and three in West Virginia. PARAMOUNT RADIO, Omaha, Neb., was named full line distributor for Douglas and Sarpy counties, Nebraska, and Pottawattomi in Iowa.

**Larkin Coils, Inc.**—CHARLIE WACHHOLTZ of Dallas has been named sales representative for

Texas and Oklahoma. He was general manager of Climate Supply Co., Dallas, before becoming a manufacturers' representative last October.

**Metalbestos Div., William Wallace Co.**—JACK WATSON has been appointed representative in the St. Louis district for this division which makes gas vent pipe. He has been associated with Minnesota Mining & Mfg. Co. His territory covers eastern Missouri and southern Illinois.

**Norge Chicago Corp.**—This Chicago area distributor of Norge home appliances has been expanded to include 22 counties in central Illinois. Operations of the new territory will be centered in Peoria and known as the Peoria division. HARVEY J. ROTH has been named division manager.

**York Div., Borg-Warner Corp.**—W. C. PHILLIPS REFRIGERATION PRODUCTS CO. and SCATENA YORK CO., both of San Francisco, ALADDIN HEATING CORP. of San Leandro, and YORK CHICO CO. of Chico have been named associates for York industrial equipment in the northern California-Nevada area.

## UNIFLOW SWITCHES TO RUBATEX TUBING FOR SWEAT-PROOF INSULATION AT LESS COST

Cold lines in six Uniflow water cooler fountain models and ice cube maker now insulated with this new closed cellular rubber tubing insulation.

"We find Rubatex particularly applicable to our uses mainly because it doesn't absorb water and at the same time provides the insulation necessary at the points where it's used. We also believe Rubatex will last longer. Lower initial cost and fast deliveries were additional influencing factors in our switch to Rubatex."

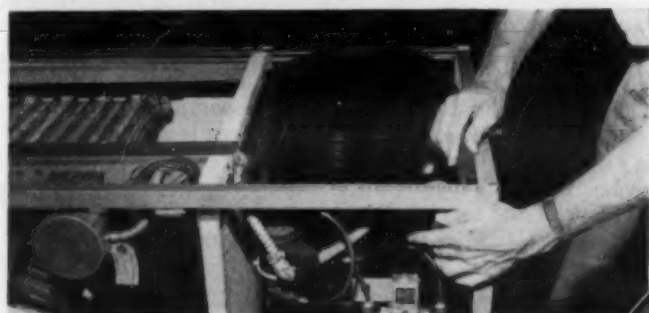
L. E. Green, Chief Engineer  
Uniflow Manufacturing Company  
Erie, Pa.



Interior of a Uniflow fountain showing Rubatex as insulation on cold water line where it passes close to outside skin of fountain—thus preventing "sweating" of cabinet. Also refrigeration line where Rubatex Tubing prevents condensation and resultant "puddling" on floor.



See how easily Rubatex is slipped on the Uniflow cold water line. Rubatex is especially adaptable where carriers are curved. Will readily bend without cutting or fitting—fits snugly to any contour of pipes.



Rubatex Tubing being applied to one of the refrigeration tubes in Uniflow "Kold-Draft" ice cube maker. After inserting Rubatex over tube, an air hose is used to easily speed-up installation.

**RUBATEX DIVISION, Dept. A-3  
GREAT AMERICAN INDUSTRIES, INC.  
Bedford, Virginia**



For full details and sample of Rubatex Closed Cellular Rubber Tubing—print your name in space below, attach to your company letterhead and mail to us.

Name \_\_\_\_\_

Rubatex's unique nitrogen-filled closed cellular rubber structure makes it resiliently soft and most adaptable as formed copper tubing insulation for any cold lines requiring sweating resistance . . . cannot absorb water . . . keeps pipes forever dry . . . eliminates any need for additional vapor barrier . . . gives it excellent weather-aging characteristics . . . plus unusually good fire-safe thermal insulation properties. What's more—initial cost of new Rubatex Tubing Insulation is surprisingly low and deliveries can be made fast!

Available in standard inside diameters of 1/4" to 2" with 3/8" and 1/2" wall thickness. Other sizes can be made to specification. Produced in any lengths up to 250 feet. Can be slit for installed piping.



Send for Free Sample and full details

## Sales, Service Firm To Have Westinghouse Line

NASHVILLE, Tenn.—Three local men with a total of 41 years' experience in air conditioning and refrigeration fields recently incorporated a new firm, Climate Control Co., for engineering sales and service of Westinghouse Electric Corp. lines.

Frank W. Dahlinger, Jr., president; John T. Watts, vice president; and Frank D. Harvey, secretary-treasurer, formerly served with M. T. Gossett Co., Inc., local Carrier Corp. distributor.

The concern has a newly-remodeled concrete block office building at 2420 Capers Ave. and Twenty-Fifth St.

It was disclosed that the new firm will handle Westinghouse air conditioning and heating equipment, both residential and commercial, including heat pumps, and also offer complete refrigeration installation servicing and engineering in the area.

## Bernice Goodman To Join Coast Mfrs. Representative

PHILADELPHIA—Miss Bernice Goodman, former sales manager of the upright freezer division of Jordan Refrigerator Co., a division of U. S. Air Conditioning Corp., has resigned to join Enoch-Roossin & Associates in Los Angeles, said to be one of the largest manufacturers' representative firms in the west.

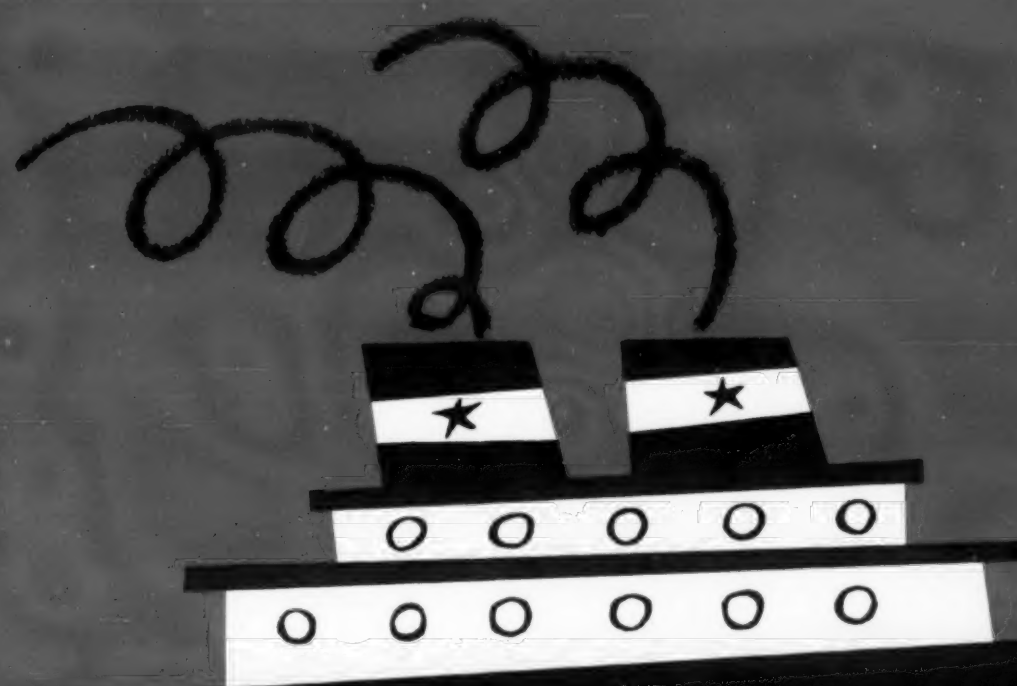
Miss Goodman, who was administrative assistant in sales to Harry Fogel when he and Frank Fogel owned Jordan Refrigerator Co., will become sales promotion manager about March 15, she said.

Enoch-Roossin & Associates, which was recently formed by L. B. Enoch and Norman Roossin, handles 22 lines in the commercial equipment field, including Magic Chef ranges, Universal Stove, and Jordan Commercial refrigerators.

The company now has headquarters at 2707 W. 54th St., Los Angeles, but will move to larger quarters in Culver City. The firm sells to restaurant equipment distributors, commercial refrigerator distributors, hospital equipment firms, and governmental agencies.



**if your future is  
in air conditioning  
your fortune is in *Carrier***



**no pierda el barco!**



**No pierda el barco!  
means "don't**

## **Don't miss the boat on the** *Caribbean Cruise*

Win an eleven-day Caribbean vacation cruise on the "Queen of Bermuda" for yourself and your wife! (We've chartered the entire ship—funnels, anchor and crew to make sure you have an unforgettable holiday.)



Enjoy a relaxing, bracing ocean trip, the finest cuisine, a visit to sunny Nassau, "the Crown Jewel of the Golden Bahamas," tour picturesque Jamaica, see the exotic sights of colorful Havana, "the Paris of the Western World."

### **ELEVEN GLORIOUS TROPIC HOLIDAYS!**

All Carrier dealers are in on this contest. You're eligible, no matter what your product line—Room Air Conditioners, Residential Air Conditioners,

Commercial Air Conditioners, Applied Systems, Ice makers.

Every single expense aboard ship will be paid by Carrier. You won't be able to spend a cent. Ashore Carrier will pick up the tab, too. The only money you'll spend will be for family gifts.

The Tropic Holiday Contest lasts all year, ends in November. No panicky deadlines, no pressure to produce overnight. Any dealer can win in his own good time. No pierda el barco!

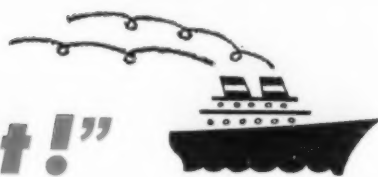
## **And don't miss the boat on becoming the most successful**

**Here are ten good reasons why the Carrier franchise is the most valued in the industry.**

1. A Carrier dealer gets engineering help from his distributor on difficult jobs. His distributor knows the air conditioning business and he understands dealer problems.
2. A Carrier dealer receives continuous training in the most modern techniques for air conditioning engineering, selling, installing and servicing.
3. A Carrier dealer can obtain expert management consultation on any phase of his business operation. Assistance in accounting, financing, inventory control, personnel compensation, etc.
4. A Carrier dealer doesn't have to tie up his own capital in inventory. Under a special Douglas Guardian Warehouse Plan he enjoys the benefit of having the equipment he needs on hand and yet he pays nothing, not even interest, until the equipment is sold.
5. A Carrier dealer is protected against price reductions



**miss the boat!"**



**Carrier dealer's**

**Tropic Holiday**

**Mexican Holiday**

Win a six-day all-expense-paid holiday in Mexico for you and your wife. All dealers and dealer salesmen are eligible. And when we say "all-expense-paid" that's exactly what we mean!



From the airport nearest your home you'll fly in luxurious comfort to Mexico City. You'll visit the Capitol, National Palace, the Cathedral and Sacred Museum, and the flower market. You'll see the floating gardens of Xochimilco, Mexican bullfights, the Shrine of Guadalupe, the Monastery of Alcoman, the holy city of the Aztecs and Toltecs, the Pyramid of the Sun.

Wherever you go you'll be wined and dined at Carrier expense. You may wish to buy some gifts

for your family, but that's the only money you'll be able to spend.

Carrier dealers are eligible as well as all dealer salesmen. You're in, no matter what your product line—Room Air Conditioners, Residential Air Conditioners, Commercial Air Conditioners, Applied Systems, Icemakers.

Just look at your chances of going on this fabulous Mexican Holiday trip: *There is no limit to the number of dealers who can win!* No pierda el barco!

**air conditioning dealer in town—a *Carrier* dealer**

on unsold inventory at all times. If he buys his equipment before the selling season begins this price-protection can last for up to eleven months.

6. A Carrier dealer enjoys the most liberal product warranties in the business. These high allowances assure customers' satisfaction without affecting dealer profits.

7. A Carrier dealer gets sales support from the Carrier National Buyer Organization. This team sells national firms who require air conditioning installations in the dealer's town, turns the order over to the dealer.

8. A Carrier dealer is backed with hard-selling advertising support. Both nationally in magazines and in television, and locally in newspapers, radio, television; in fact, *wherever* he wants advertising support.

9. A Carrier dealer enjoys unequalled prestige—his products are known and respected. The Carrier dealer is Mr. Air Conditioning wherever he's located. And judging from the potential market for air conditioning, his future growth and success are unlimited.

**plus** →



**10. The largest selection of air conditioning equipment on the market.**

***If it can be air conditioned, Carrier dealers have what it takes!***



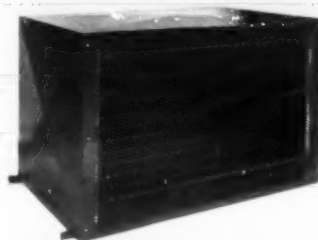
**Room Weathermakers**

Both window and console types—over 25 models



**Year-round Weathermakers**

Single, compact units that supply both heating and cooling



**Summer Weathermakers**

Air-cooled units that add cooling to any type of heating system



**Winter Weathermakers**

The "Furnace with a Future"—all types and sizes in oil and gas fired models



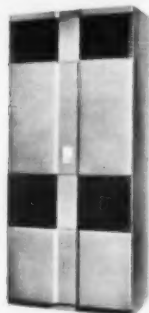
**Self-contained Weathermakers**

Water-cooled packaged air conditioners in capacities from 2 to 5 hp.



**Large Self-contained Weathermakers**

Water-cooled packaged air conditioners in capacities from 7½ to 20 hp.



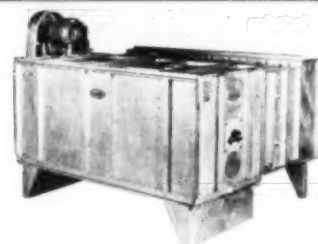
**Air-cooled, Self-contained Weathermakers**

Specifically designed for waterless operation. Capacities from 5 to 15 hp.



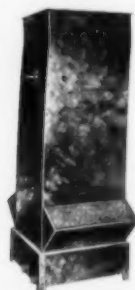
**Automatic Icemakers**

13 models in a complete line for cubes, crushed ice, flakes, and chips



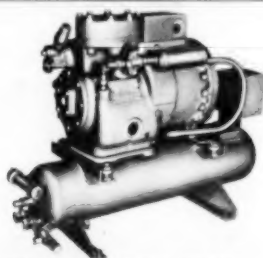
**System Weathermakers**

Seven sizes for air conditioning in custom-designed systems. 5 to 125 tons.



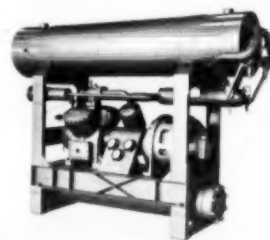
**Cooling towers**

Designed to mate perfectly with Self-contained Weathermakers—3 to 15 hp.



**Hermetic condensing units**

Water-cooled models from ¼ hp to 10 hp and air-cooled from ¼ hp to 3 hp.



**Water cooling machines**

Completely "packaged" refrigeration for air conditioning duty. 5 to 150 hp.

**A Carrier dealer never has to pass up a job because he doesn't have the right equipment for it**

**Carrier**

**Profits, prestige and tropical holidays! No pierda el barco!**

**Like to become a Carrier dealer? Your Carrier distributor is the man to see.**

Form No. AC431 • 1-57



## Dairy Refrigeration Equipment Illustrated

—KEY NO. S-220—

NEW YORK CITY—Niagara Blower Co. recently issued bulletin 134 which illustrates and describes special equipment for the dairy and allied processing fields including ammonia and "Freon" condensers.

"No Frost" refrigeration equipment, room coolers, air conditioners for processing and storage of hygroscopic material, vapor condensers for milk evaporation, food freezing, and frozen storage refrigeration are detailed.

## Centrifugal Fan Booklet Issued

—KEY NO. S-221—

CHICAGO—A new 60-page illustrated brochure was recently released here by Chicago Blower Corp. listing the firm's latest line of backward curved blade centrifugal fans. The booklet features performance charts on the fans.

Described are fans designed for a wide range of commercial and industrial air conditioning, heating, and ventilating applications.

## Humid Air Coil Units Cataloged

—KEY NO. S-222—

LOS ANGELES—A new catalog (No. 3C6a) covering humid air coil units for applications above 34° was recently released here by Recold Corp.

Featuring performance of steam or hot water reheat coil which may be added to the face of this unit for use in banana room application, the bulletin gives dimensions and specifications for "Freon," direct expansion ammonia, flooded ammonia, and brine uses, the firm noted.

## Spun Mineral Wool Insulation Covered

—KEY NO. S-223—

TRENTON, N. J.—Full specifications on its complete line of spun mineral wool industrial insulating products were recently

offered in a new catalog published by Baldwin-Hill Co.

Listing standard sizes, thicknesses, and thermal conductivities for more than 20 types of heat and cold insulations for equipment and piping, the catalog also includes temperature-thickness recommendations for each.

In addition to the characteristics of the materials themselves, the 22-page, three-color catalog describes typical applications.

## 61 New Residential Controls Outlined

—KEY NO. S-224—

MINNEAPOLIS—New 1957 Minneapolis-Honeywell Regulator Co.'s residential controls catalog lists 61 new model controls or package sets, the company announced.

The diversified line lists, all told, nearly 500 residential controls of more than 50 varieties. The 104-page catalog is largest in M-H's history, it was added, and 250,000 copies were distributed to heating and air conditioning dealers.

## Zinc 'Cold Plate'

### Prices Listed

—KEY NO. S-225—

BROOKLYN—Dean Products, Inc. announced issuance of a new price list (506) for all its zinc metallized "Cold Plates."

Now available in more standard sizes, "job tailored" Cold Plates are offered in special alloys such as stainless steel and monel. Special assemblies are also available, the firm said.

Plates may also be obtained in a variety of shapes, such as cylinders, U's, angles, and tanks.

## 'Venturafin' Heater Handbook Offered

—KEY NO. S-226—

DETROIT—A new vest-pocket edition of the "Venturafin" unit heater handbook was recently made available by American Blower Corp. here.

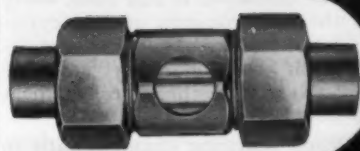
The 64-page, 3½ by 5½-in. illustrated handbook contains specifications and operating char-

acteristics and installation and application data for the full Venturafin line. It is said to be a source of unit heater information for on-the-job calculations or conferences.

Included in the new pocket handbook, Bulletin 9417, are ca-

capacity tables, dimensions, engineering specifications, external ductwork suggestions, mounting heights, piping diagrams, pipe sizes, sound ratings, and wiring diagrams. Also included is a typical selection problem.

## NEW unit SAVES TIME on the PRODUCTION LINE



"250" SERIES

LIQUID EYE® POSITIVE SEALING INDICATORS

designed to save you even more time and money.

6 sizes now available: 3/8", 1/2", 5/8", 1", 1 1/8" and 1 3/8" O.D.S.

The new "250" has all the proved Liquid Eye advantages plus these newly engineered features:

- A completely self-contained economy unit that's ready for immediate installation.
- smaller — more compact, simplified.

- designed to eliminate possible assembly errors.
- preformed copper extension eliminates need for separate gaskets — foolproof installation.

If you have a special problem, consult with Allin engineers. Custom units can be made to your exact specifications.

Write today for catalog covering the complete Allin line.



ALLIN MANUFACTURING CO.  
410 N. Hermitage Ave. • Chicago 22, Illinois  
Over 1,000,000 Liquid Eyes Sold to Date!

# Apply this insulation adhesive safely anywhere on the production line!



HERE'S DRAMATIC PROOF THAT WATER-DISPERSED 3M ADHESIVE EC-321 WON'T BURN EVEN WHEN IT IS SPRAYED OVER AN OPEN FLAME!

Now with 3M Adhesive EC-321 you can bond insulation to air-conditioning cabinets swiftly and safely—without spray booths or ventilating hoods. This water-dispersed adhesive won't burn when wet. What's more, EC-321 has exceptionally high heat resistance. It's safe to run metal parts through a paint-baking cycle right after insulation is bonded.

Fast-acting EC-321 grips the insula-

tion immediately—has high wet strength. Production can continue as complete drying proceeds. EC-321 is easy to apply with spray gun, brush or roller. Moisture and vibration of the air-conditioning unit do not affect the bond. EC-321 is excellent for bonding insulation in heating units, too.

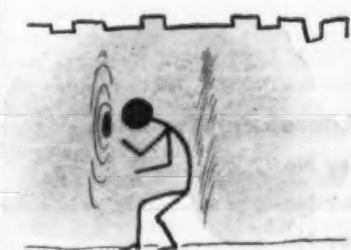
SEE WHAT 3M ADHESIVES CAN DO FOR YOU!

Consult 3M Research. Contact your

3M Field Engineer. Or for information and free literature, write on your company letterhead to: 3M Dept. 132, 417 Piquette Ave., Detroit 2, Mich.



MINNESOTA MINING AND MANUFACTURING COMPANY • ADHESIVES AND COATINGS DIVISION  
417 PIQUETTE AVE., DETROIT 2, MICH. • GENERAL SALES OFFICES: ST. PAUL 6, MINN. • 99 PARK AVE., NEW YORK 16, N. Y. • CANADA: P. O. BOX 757, LONDON, ONT.



LOOK IN AT  
WALTON'S BOOTH  
#434 AND SEE

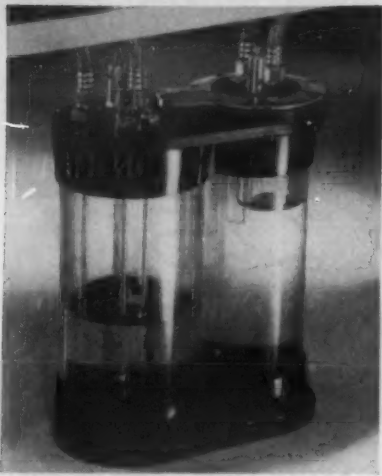
NEW HUMIDIFYING  
UNITS FOR ANY DUCT  
CIRCULATING SYSTEM

Walton

Laboratories, Inc.  
Irvington 11, N. J.



## Motorless, Pumpless Carbonator Introduced



KEY NO. G-220

NEWARK, N. J.—A new motorless, pumpless carbonator in a transparent housing was recently introduced by Yan-Nell Industries. Standard model has a capacity of 30 g.p.h. operating at water pressure of 20 lbs. Larger capacities are possible with higher water

pressures, the company pointed out, or the height of the unit can be increased. If necessary, the carbonator will operate on gravity-fed water.

Called the "Jet Carbonator," the unit has only one moving part. With its transparent housing, it can be displayed in full view. Body of the unit consists of two cylindrical chambers. Water is carbonated in the charging chamber under constant pressure from a 60-lb. gas line.

When charging chamber falls to refill level, an electrical relay operates a valve to permit pressure from an intermittent carbonating gas line, connected to the reservoir chamber, to act in place of a pump.

Impulse from the liquid level control relay shuts off the pumping gas line and gas in the water reservoir is allowed to vent, the firm said. The reservoir is then replenished from the main line, and a float valve makes the sole move in the cycle to complete the operation.

## Philco Produces 11-Cu. Ft. Upright

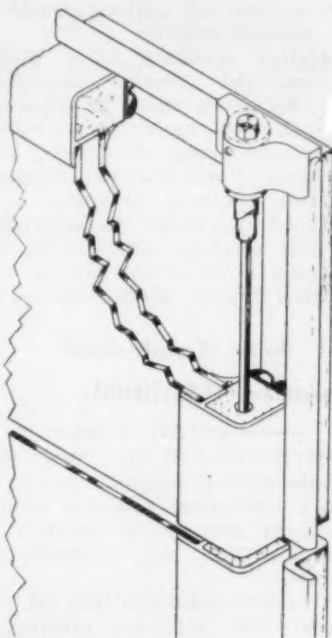
KEY NO. G-221

CHICAGO—Philco Corp. showed a new upright freezer for 1957, an 11-cu. ft. model, when it opened its new exhibit area in The Merchandise Mart here.

Known as model V-1171, the freezer will hold approximately 400 lbs. of frozen food. Every shelf is a freezing shelf and the freezer door shelves are of the self-service type. It will carry a self-service type, it was reported.

It will carry a suggested list price of \$329.95, the manufacturer was quoted.

Other Philco upright freezers include model 2072 which is a 20-cu. ft. freezer and model 1472, a 14.6-cu. ft. freezer. Three chest-type freezers, model 1872, 18.6-cu. ft. capacity, model 1375, 13-cu. ft. capacity, and model 872, 8.4-cu. ft. capacity, are also included in the 1957 freezer line, the company announced.



## Self-Closing Device Shuts Barr Doors

KEY NO. G-222

OAKLAND, Calif.—Barr Mfg. Co. here recently developed a self-closing device for its hinged refrigerator doors.

Termed "Torkk," the arrangement is a spring steel rod which acts as a torsion against the door in open position. As the door is released the tension on the torque rod carries the door to a closed position, the company stated.

Torque rod is welded to hexagons on each end which are used to adjust speed of closing. The device is entirely concealed inside the door, has no wearing parts, the firm explained.

## Logo Develops Roll-On Finish

KEY NO. G-223

CHICAGO—Recently developed by Logo, Inc. was a screening and roll-on finish designated RV-300.

The material may be applied to a wide variety of surfaces in the plastic line, it is said to have excellent adhesion to all thermoplastics except the acetates and polyethylenes.



## Warm Air Furnace Control Announced

KEY NO. G-224

LONG BEACH, Calif.—Robertshaw-Fulton Controls Co., Grayson Controls Div., here recently announced a new automatic gas heating control for use with warm air furnaces.

Known as "Unitrol 400-E," the new furnace control combines gas cock, thermostatic valve, and automatic pilot in one compact unit, the company said. Thermostatic valve operates on heat motor principle on 24 v. a.c.

Unitrol 400-E has snap-action gas valve for positive and completely silent performance, it was pointed out. The automatic pilot is a 100% shut-off type.

Other advantages claimed for the unit include ease of installation with only two pipe fittings necessary.

## Haveg Has Light, Heavy-Duty Glass Tanks

KEY NO. G-225

WILMINGTON, Del.—Light and heavy-duty polyester glass tanks are now available from Haveg Industries here.

Claimed to offer good resistance to effects of brine and other corrosive solutions, tanks can be had in "almost unlimited sizes," the company explained.

Haveg fabricates to specific requirements, even up to 30,000 gal. in the light, low-cost tanks.

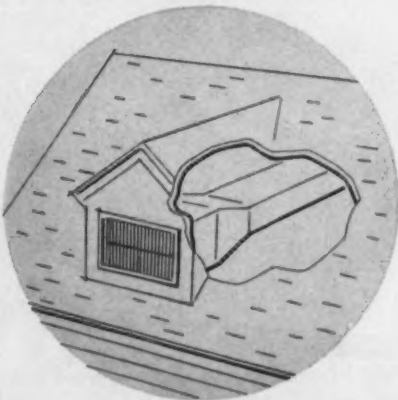
"We're ready to buy air conditioning IF you show us how we can afford it!"



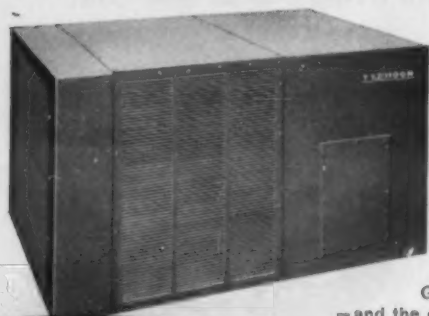
## Sell them TYPHOON ECONOMAIR

It's the biggest little air conditioner you can sell. Delivers more comfort per square foot...per dollar cost...than any other unit around. You save many man-hours on installation because the Typhoon Economair is self-contained—you save costly service calls because Typhoon performance is trouble-free. Suddenly you have twice as many prospects for air conditioning—and it's easy to sell 'em when you tell 'em about these precision engineering and exclusive economy features:

Booth 413-15-17 ASHVE SHOW, Chicago



- Bigger condensing surface—more cooling at less cost.
- Oversize coils wring out more moisture from the air.
- "Turbulator action" in condenser and cooling coil maintains top performance.
- Centrifugal blower reduces static resistance problems by protecting fan motor from overload.
- Compact—less than 4' x 3' x 2'.



TYPHOON

AIR CONDITIONING COMPANY

505 Carroll Street  
Brooklyn 15, New York

DIVISION OF  
**HUPP**  
Corporation

Get the lowdown on how easy it is to sell the Typhoon Economair—and the entire Typhoon line. It's especially easy now with Typhoon's A. B. C. credit plan for you to offer your customers. Write for full details.

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised  
(list name, page, and issue date)

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### What's New or Current Literature Available

Key No. ....	Key No. ....
Key No. ....	Key No. ....
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Name ..... Title .....  
(Please Print)

Company .....

Street .....

City..... Zone..... State.....

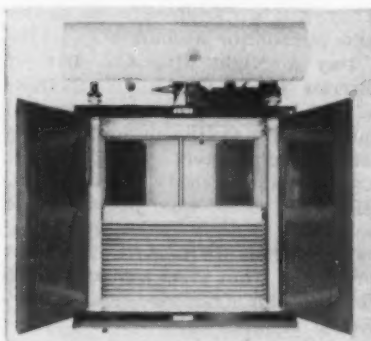
Type of Business .....

MAIL THIS FORM TO  
**AIR CONDITIONING & REFRIGERATION NEWS**  
Readers Service Dept.

450 W. FORT ST.

DETROIT 26, MICHIGAN





## Double Contact Plate Freezer Introduced

—KEY NO. G-226—

CHICAGO—Dole Refrigerating Co. recently announced the new "Freze-Cel," a double contact plate freezer.

Freezing mechanism consists of vacuum cold plates, supporting framework, liquid and suction headers, flexible connections, and hydraulic lifting mechanism all in one assembly, mounted in an insulated cabinet, Dole said.

Freezing mechanism alone is available for multiple installation or if the cabinet is to be built or purchased locally, the firm explained. The cabinet has doors mounted front and back permitting a "pass-through" type of operation.

Models are available varying from nine to 24 stations. Type of refrigeration hook-up may be gravity circulation, forced recirculation, brine, or direct expansion, it was added.

A safety feature is incorporated to prevent excessive pressure build-up in the hydraulic system in event of abnormal expansion of food packages during freezing.

## Develop Thermostat for Double-Pole Disconnect

—KEY NO. G-227—

ST. LOUIS—White-Rodgers Co. recently offered a new electric heat thermostat for localities that require a double-pole disconnect switch placed at each thermostat.

Type 1A63 control is specially designed for use on such electric heating installations as cable heat, glass panels, elec-

tric baseboards, rubber panels, and similar applications, the firm said. It features a true "off" dial position at which both sides of the 240 v. line are disconnected, and no temperature change can close the contacts.

A new sensitive element is used which is said to obtain extremely sensitive reaction to both radiant heat and air temperatures. Even the color of the element and case is of a hue that has heat absorption qualities similar to that of the human body, the firm stated, to provide a close differential and keep variations in heating panels to a minimum.

This balancing of radiant temperature with air temperature maintains constant comfort and provides the most economical operation of the heating system, the company declared.

The switching mechanism mounts directly into any standard 2 by 3-in. outlet or conduit box. This mechanism is said to be completely silent. Control has knob-type temperature selector which automatically maintains any temperature from 55° to 85°. The unit is rated at 5,000 w.

LOOKING  
FOR A JOB?

CHECK  
THE  
CLASSIFIED ADS

## Nonflammable Solvents Won't Harm Insulation

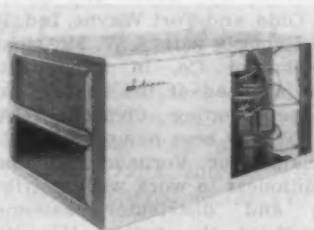
—KEY NO. G-228—

WILMINGTON, Del.—Nonflammable solvents that are said to bite into and remove oil, grease, and dirt without harming delicate metal parts or electrical insulation, yet are safe enough to use in ordinary work areas with conventional ventilating equipment were recently made available by E. I. du Pont de Nemours & Co.

Adaptable to vapor degreasing or cleaning by liquid immersion, the solvents are marketed by the firm under its "Freon" trade-mark. Three types, all "selective solvents," are available in container sizes from 10 to 55 gal.

Nonflammable and non-explosive, the solvents will not attack insulation in motor wiring, the company states. "Freon" MF, with a boiling point of 75° F., "Freon" BF, which boils at 199°, and "Freon" TF, whose boiling point is 118° are the three solvents available.

## 2-Stage Conditioner Ties In with Heating Unit



—KEY NO. G-229—

WICHITA, Kan.—"Polar Pak," a self-contained, two-stage air-cooled air conditioner which may be installed in an attic, crawlspace, basement, or on a roof, was recently announced here by the Coleman Co.

Designed to deliver the required amount of air for cooling when tied into an existing forced air heating system, the unit can be installed independent of the heating system also. In the latter case, air distribution is accomplished through any one of three types of duct systems—conventional sheet metal with insulation, prefabricated glass fiber, or the maker's

pre-engineered 3½-in. ducts with air blending diffusers.

No refrigeration piping or plumbing connections are needed. Both the 2 and 3½-hp. models have twin compressors for two-stage cooling. A four-position selector switch enables the system to operate on one compressor with the second cycling on the thermostat, the producer pointed out. Both compressors can be operated when the load is heavy.

A switching arrangement is used to keep the lower refrigeration system in operation during thermostat cycling to prevent re-evaporation of condensate into the conditioned space. The evaporator blower has sufficient capacity to deliver the required amount of air for cooling at pressures up to .45 in., the company said.

The 2-hp. Polar-Pak measures 46 by 30 by 21 in., has a capacity of 23,800 B.t.u.h. The 3½-hp. model is 50½ by 34½ by 21 in., with a capacity of 36,300 B.t.u.h. Both of the models operate on 220-

v., single-phase, 60-cycle power. Cabinet is waterproofed to permit outdoor location of the unit, it was noted.

## Cladding Covers Aluminum Impact

—KEY NO. G-2210—

PITTSBURGH—Aluminum Co. of America recently announced a low-cost aluminum impact extrusion may be obtained with a thin surface cladding which provides cathodic corrosion protection, facilitates finishing, or makes joining easier.

This will make feasible use of aluminum impacts in such applications as water filters, small water tanks, steam traps, electrical cases, fittings for home hot water heaters, and process industry operations where corrosive solutions or atmospheres are severe, the company claims.

It is possible to clad high-strength parts with an alternate alloy suitable for all types of finishing processes, it was added.

they're on their way!

THE NEW 1957 MUELLER BRASS CO.  
REFRIGERATION PRODUCTS COMING  
FROM PORT HURON...  
ARE OUT OF THIS WORLD!

watch for the launching  
date soon to be announced  
in this magazine!!



MUELLER BRASS CO.  
PORT HURON 13, MICHIGAN



## Men on the Move . . .

**American-Standard Air Conditioning Div.**—Appointment of W. G. SENFT as vice president-manufacturing was announced by the firm. Senft has served as product manager since 1953. He replaces F. P. WEIL who has been named general manager of enamel plants of the Plumbing & Heating Div. The company also appointed ROBERT WILSON product manager to succeed Senft. Wilson has been training supervisor.

**Jas. P. Marsh Corp.**—F. O. PAULS has been promoted from assistant to advertising manager.

**General Electric Co., Home Heating & Cooling Dept.**—R. W. OLSEN has been named commercial engineering manager. He formerly was supervisor of product services.

**Union Asbestos & Rubber Co.**—DUANE QUAMME has been named sales manager of the Coldmobile Div. This is a promotion from assistant field sales manager of the company's heating division.

**Westinghouse Electric Corp.**—W. L. CONSTANCE was named manager of a new factory sales office in Los Angeles for southern California dealers of the Package Products Dept., Air Conditioning Div. He returned to Westinghouse recently after being with Rheem Mfg. Co.

**Bell & Gossett Co.**—Appointment of FRANK GALL as manager of the heat transfer department has been announced. Added emphasis on this phase of the business is shown by this move. Gall has been in charge of the company's training and education program for the last six years. R. E. ANDERSON, of industrial sales, has been moved up as Gall's assistant. WILLIAM G. CARLISLE was named training and education manager.

**Acme Industries, Inc.**—Appointment of KENNETH E. ULTSCH and HRANT H. YOUSOUFIAN as sales engineers in the OEM sales division has been announced. Ultsch has been with Trane Co. as assistant product manager in refrigeration sales and with A-P Controls. Yousoufian will operate out of the New York City office. IRVING E. CORWIN and VALDI LANDMAN have been named sales engineers in Acme's Chicago regional office.

**O. A. Sutton Corp., Inc.**—BRUCE W. REID has been appointed field service manager. He has been associated with nearly every phase of the air conditioning business in the last 22 years. BILL H. YORK has been named district sales manager in the commercial appliance division. He will be responsible for sales and promotion of Vornado

central air conditioners in Indianapolis, Cincinnati, South Bend, Ind., Louisville, Ky., Akron and Columbus, Ohio, and Fort Wayne, Ind. He was formerly with A. Y. McDonald Distributing Co. in Sioux City, Iowa, as head of the heating and air conditioning division. HAL MCCOY has been named field sales specialist for Vornado room air conditioners to work with distributors and distributor salesmen throughout the nation. He was associated with a large Frigidaire distributor as division manager.

**Refrigeration Engineering, Inc.** (Recold)—RICHARD D. QUINN, who has been serving as personnel director and supervisor of labor relations, will fill the newly-created office of comptroller. He will be in charge of all accounting and financial activities and continue to handle labor relations and serve as supervisor of the personnel department.

**Victory Metal Mfg. Corp.**—O. FRED PETERSON has been appointed to the newly-created post of western sales manager. He was promoted from sales engineer and will work out of Oklahoma City, covering 16 western states.

**York Div., Borg-Warner Corp.**—CHARLES P. STRICKLAND, JR. has been named industrial sales manager of the southwest district. He will be responsible for sales of industrial air conditioning and refrigeration products in Louisiana,

Texas, and portions of Alabama, Arkansas, Mississippi, and New Mexico. He has been office and sales engineer in Los Angeles.

**WILLIAM SCHIRMER**, sales engineer in the industrial department, has been transferred to Los Angeles from San Francisco. JOHN D. OLSEN has been upped to zone commercial representative at the San Francisco branch to replace B. W. STEINKULLER who was promoted to Pacific district manager for the commercial department. E. J. GIRAUDO succeeded Olsen as construction superintendent for the industrial department in San Francisco. He has been maintenance specialist.

**Mohawk Cabinet Co.**—RAY C. DOLISH has been appointed sales manager. He previously was associated with I. N. Hagan Ice Cream Co., Uniontown, Pa.

**Trane Co.**—DONALD J. GIRARD has been promoted to manager of the Syracuse, N. Y. sales office succeeding JAMES H. HANCHETT, who will retire April 1. However, Hanchett will continue as sales representative in northern New York state. Girard has been a sales representative. A. B. BARRY and ERNEST CUMMINGS have joined Trane's field sales staff. Barry will specialize in self-contained air conditioning sales in the Chicago area while Cummings has been assigned to the Atlanta office.

They will work directly on dealer and distributor accounts.

**Day & Night Mfg. Co., Div. of Carrier Corp.**—CRAIG C. STIREWALT has been appointed regional manager for California and Nevada with headquarters in Monrovia, Calif. He succeeds FRANK R. SPRATT, who was promoted to assistant general sales manager. MERRILL L. POLLARD has been promoted from sales representative for the San Francisco-Salinas territory to Stirewalt's former position of northern California branch manager with headquarters in San Francisco.

**Lau Blower Co.**—EDWARD F. HUMPHREY has been assigned the state of Alabama as an addition to his present sales territory extending from Pennsylvania to South Carolina. CHARLES L. SIGMAN has taken over the state of Texas in addition to his territory of Kansas, Mississippi, Missouri, Oklahoma, western Tennessee, southeastern South Dakota, and southern Illinois. VICTOR N. STEWART has been assigned the states of Iowa and Nebraska. He also represents the firm for its line of household electric and attic fans in these two states as well as Kansas, Oklahoma, and western Missouri.

**Tuck-air Furnace Co.**—CLARENCE R. GRAHAM has been named plant manager, a new position. He came from the Wedgewood Div. plant of Rheem Mfg. Co. where he held a similar position for five years. EDWIN OHSE, formerly with Dallman Co., San Francisco, has been appointed territory manager for Texas and Louisiana with headquarters at Dallas. ROBERT C. BOEHM has been transferred to Seattle from Atlanta.

**AMP, Inc.** (formerly Aircraft Marine Products)—CHARLES L. STOUT has been named to the newly-created post of field sales manager. Stout served 19 years with Avco Mfg. Corp. and subsidiary companies. He left a position as general sales manager of Tracy Kitchen Div., Edgewater Steel Co. to join AMP. F. E. "BUD" HOWELL returns to AMP as director of product managers after serving as vice president of Crosley and Bendix Home Appliances Div., Avco Mfg. Corp.

**Minneapolis-Honeywell Regulator Co.**—RALPH L. GOETZENBERGER, reaching voluntary retirement age of 65, has resigned from the firm. He has been a vice president for 22 years. Officials said he would be retained as an educational consultant. He will continue to be quartered in Washington, D. C. where he has been in charge of the government-projects office. RAYMOND J. CONDON has been named divisional vice president in the government-projects office. He had been in charge of military sales of the Aeronautical Div.

**Armstrong Cork Co.**—EDGAR B. STERRETT, JR. has been named to the newly-created post of assistant manager of promotion and sales training. He will assist in coordinating and creating sales promotions and conducting training activities for the Insulation and Building Products Divs. He has been resident salesman in Minneapolis.

**Babcock & Wilcox Co.**—PAUL H. CARLSON has been appointed advertising manager for the Tubular Products Div. He has been nominal head of this activity and now will be responsible for all sales promotion and advertising activities in the division.

**Waterman-Waterbury Co.**—JACK SEARLS, formerly assistant to the vice president of Penn Controls, Inc., has been named assistant to the president of this company. He will specialize in new business development.

**Remington Corp.**—ROBERT E. DALEY has been appointed assistant export manager. He previously had been associated with Isbrandtson Co., Inc.

## Do You Require Automotive Air Conditioning Units or Components?

*EATON Can Furnish the Following from Stock or on Short Notice:*

### COMPLETE SYSTEMS

Available to fit most popular makes of cars from 1954 through 1956. Engineered and designed for specific applications. All kits are complete, no extras to add. Eaton's own magnetic clutch is incorporated in all systems. Simplified under-hood installation.

### MAGNETIC COMPRESSOR DRIVE CLUTCHES

Engineered to fit most applications; compact design; peak torque factors; positive compressor cycling; 6 and 12 volt assemblies.

### CONDENSER COIL ASSEMBLIES

Single and double row coils; 1/2" S.A.E. inlet, 3/8" S.A.E. outlet fittings; furnished with end brackets for mounting; copper tubing and aluminum fin construction; maximum condensing capacities.

### CRANKSHAFT ADAPTER PULLEYS

Add-on type; A-section 1/2" belt grooves; engineered for proper fit. Adaptations for most cars.

As a pioneer and leading manufacturer in the automotive air conditioning field, Eaton Manufacturing Company has developed automotive air conditioning units with many outstanding features—including compactness, light weight, high cooling efficiency, and simple installation. These units have been performance-proven in thousands of vehicles. High volume production for the automotive industry makes possible very advantageous prices. Most of the above items are available immediately or on short notice. Let us know your requirements.

### COMPRESSOR and CLUTCH ASSEMBLIES

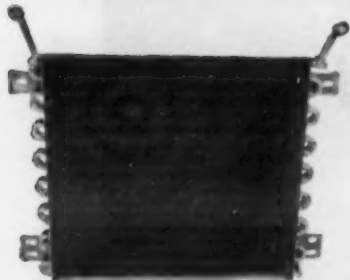
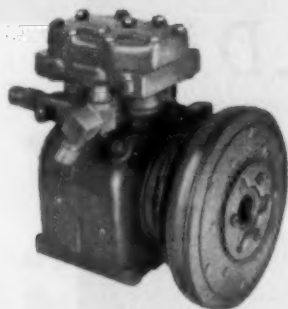
High capacity popular make automotive compressors assembled to Eaton magnetic clutch units. Prepared for immediate installation.

### EVAPORATOR COOLING UNITS

Adaptable to most cars and truck cabs; available in 6 and 12 volt models. Coils and fans enclosed in moulded plastic case. Full directional air flow control; variable fan speed control. All assemblies complete with expansion valves. Engineered for maximum cooling efficiency.

### IDLER PULLEY ASSEMBLIES

Pulley diameter, 4"; belt groove, 1/2"; stamped steel construction; M.R.C. ball bearings; assembled with threaded stud.



# EATON

HEATER DIVISION  
MANUFACTURING COMPANY  
EAST 65th AND CENTRAL CLEVELAND 10, OHIO





DURING a vending machine division sales meeting, R. S. Denzer, president of La Crosse explains the keyboard system used on the firm's upright vendors.

## LaCrosse Upright Vendors Approved By Several Soft Drink 'Parent' Firms

LA CROSSE, Wis.—Full approval of its coin-operated selective vendors has been obtained from B-1 Beverage Co. of St. Louis, Old Fashioned, Inc., Wilkes-Barre, Pa., Double Cola Co. of Chattanooga, Tenn., and Bubble-Up of Peoria, Ill., the Vending Machine Div., La Crosse Cooler Co. announced.

The firm further stated that "practically all" the major parent companies have approved the line, particularly La Crosse's upright visual selective vendors.

### What Parent Firms Are

A parent company, it was explained, produces its own type of syrup and in turn franchises various bottling companies who are authorized to buy the necessary ingredients and offer the beverage in a particular sales area.

It is to these parent companies that associated bottlers look for guidance, new information on vending machine equipment, and for field testing new vendors before recommending them to bottlers, according to William A. Ebner of La Crosse.

It was indicated that production facilities of La Crosse's Vending Machine Div. are being rapidly expanded and improved. At present four selective machines are available, and development work is being completed on two additional uprights. These will offer five flavors, the firm said, "and be so arranged that the bottler has absolute control over at least 50% of total capacity."

Ebner reported that La Crosse held a sales meeting immediately following the latest bottler's exposition at which the field sales force was informed of new equipment and promotion plans for this year.

Speakers at the meeting were: R. S. Denzer, president; W. R. Trapp, vice president; W. W. Newberry, secretary-treasurer; Jack Horner, and Ebner.

### Explains Keyboard System of Unit

During the meetings Denzer explained the "unique" keyboard system used in La Crosse upright vendors. The "release" is "the heart of the system," he said. It is the controlling factor to operate individual gates and is activated when the consumer puts in a coin.

When the coin is inserted, he pointed out, it drops down through the mechanism to complete the circuit to energize the solenoid valve which cocks the keyboard system opening each individual gate.

At this point the purchaser can remove the drink of his choice by pulling one bottle for-

ward. This automatically locks other gates so only one bottle can be removed at a given time.

Ebner said the company expects to advertise nationally in bottling trade publications and carry out a comprehensive direct mail program this year.

## Fogel To Put Up 51,000-Sq. Ft. Bldg. To Replace Razed Units

PHILADELPHIA—Fogel Refrigerator Co. announced that a contract has been awarded to William F. Lotz, Inc. to rebuild the fire-destroyed sections of its plant.

A 51,000-sq. ft. building will be constructed to replace the portions of Fogel's plant which were ravaged on Oct. 18 in a spectacular \$500,000 seven-alarm blaze. The fire destroyed two of Fogel's seven buildings and seriously threatened neighboring homes and plants. The ravaged buildings had housed the company's woodworking, sheet metal, small parts storage, and glass departments.

A new building had been earmarked for construction in 1958 as part of Fogel's expansion plans. However, the urgency of

replacing the lost buildings was considered secondary to the firm's long-term needs.

Fogel and Lotz planned the new structure so it can be expanded further to meet future growth. It will be built on a 1½-acre site now used as a parking lot and will tie in with present production on a straight-line setup.

This new addition will enlarge the plant to over 150,000 sq. ft. of one-story manufacturing space. A railroad siding running inside the new building and off-street truck docks will facilitate loading and unloading.

The new structure, scheduled for completion by late spring, will house all "metal" operations (including storage, shearing, forming, and finishing).

## Food Preservation Book Publisher Regroups, Moves; To Offer Tome on Freezing

WESTPORT, Conn.—The Avi Publishing Co., Inc., since 1921 publisher of the *Fruit Products Journal* and technical books for the food industry, was recently reorganized and its location changed from New York City to Westport, the firm announced.

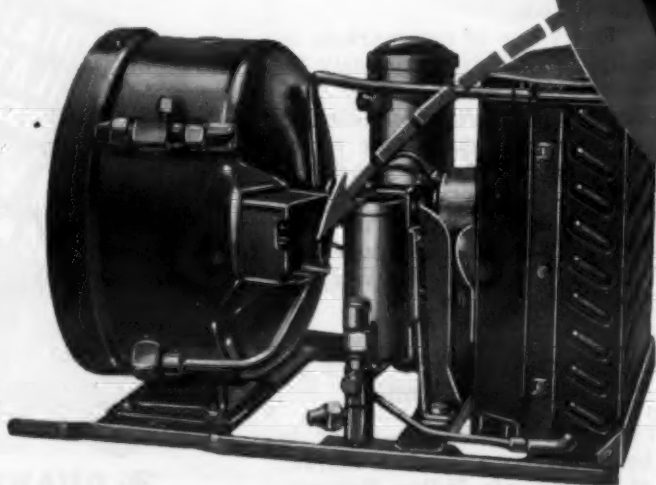
The company will continue the publication of books on food preservation and food technology under the management of Gerald A. Fitzgerald, vice president and secretary, it was added.

The first of the new books to be brought out will be the "completely rewritten and greatly enlarged" third edition of *The Freezing Preservation of Foods*, in two volumes, the company reported.

# EASIEST HERMETICS TO INSTALL AND SERVICE

## KELVINATOR EXCLUSIVE!

*New Plug-In Relay is both a starting relay and thermal overload protector*



- ★ Lighter weight; more compact, simplest mounting.
- ★ All parts for servicing located at one point, on one side of unit.

- ★ Nested-Fin Condenser for best heat dissipation—highest efficiency.

- ★ Over 150 replacement depots from coast to coast.

For additional information write Commercial Advertising Dept., Kelvinator Division, American Motors Corp., Detroit 32, Mich.

# Kelvinator

SPECIALISTS IN REFRIGERATION SINCE 1914!

Division of American Motors



Means More for Americans





"SPACE-SAVER" compressors, moving along conveyor line at Kelvinator's Detroit plant, are checked by Charles H. Herrlich, sales manager of the commercial contract department and T. J. Ammel, assistant sales manager.

## Kelvinator Retools To Increase New Vari-Mount 'Space-Saver' Production

DETROIT — Kelvinator has announced that its new "Space-Saver" sealed compressor is available now in quantity to manufacturers of refrigeration products for a variety of uses. A comprehensive retooling program including latest auto-

matic equipment, was completed during 1956 to provide increased production.

Herrlich said the new compressors "have the advantages of light weight, compact design, and low cost, yet are built to the highest standards of quality and dependability."

The "Space-Saver" compressor is now available in nominal  $\frac{1}{8}$  and  $\frac{1}{4}$  hp. A  $\frac{1}{2}$ -hp. model will be available later this year. They are designed for refrigerators, freezers, water coolers, refrigerated vending machines, beverage coolers, and many other refrigerated products.

Other compressors are available in  $\frac{1}{4}$ ,  $\frac{1}{3}$ , and  $\frac{1}{2}$ -hp. sizes for applications requiring greater capacity.

"The 'Space-Saver' models occupy a minimum of space and can be mounted in a variety of ways," it was stated. "Fewer parts are used and stabilizing and equalizing spring construction have been simplified. They are exceptionally quiet in operation and economical to run."

"Comparison of previous models with the compact compressors show that the  $\frac{1}{8}$ -hp. model weighs only 27 lbs., compared to 38 of its predecessor. Over-all dimensions are  $6\frac{1}{4}$  in. at the thickest point, compared to  $7\frac{1}{4}$  in., while the outside diameter is  $9\frac{3}{4}$  in. compared to  $10\frac{1}{8}$  in. of the previous model."

### Refrigeration's Importance Emphasized In Montreal Ad

MONTREAL, Que., Can.—The importance of refrigeration in modern supermarket operation was emphasized by Steinberg's Markets in an institutional newspaper advertisement that featured the theme: "Over 6,000,000 Pounds Of Ice Every Day."

Said ad copy: "Hold your hand over any fresh or frozen food counter at Steinberg's and feel the blanket of cold air that covers the products."

"This cold air comes from special compressors that work for you 24 hours a day. If we were to use ice, we would require six and a half million pounds each day to generate enough cold air to maintain the freshness and quality of our perishable products and our frozen foods."

"Every one of our markets is equipped with approximately 20 compressors which supply cold air to counters and cooling rooms in the store. Our warehouse has similar compressors."

"This tremendous refrigeration system assures you and your family of maximum flavor and truly fresh foods—regardless of the season."

### Indians Don New Blankets—Colored Refrigerators

KAYENTA, Ariz.—Color is being added to the food market at the Navajo Indian Reservation here.

Hubbard Refrigerator Supply at Flagstaff, Ariz. has installed three Sherer refrigerators in the market, all of which will be finished in a soft canary yellow, one of four colors available on Sherer equipment.

The three refrigerators are a 6-ft. multiple deck dairy case, a 6-ft. double-duty service meat case, and a self-contained island type frozen food case 5 ft. in length.

## A&P Cancels Outdoor 80% Attendance Wows Vending Machine Use New Calif. ASRE Local

LEVITTOWN, L. I., N. Y.—Seven weeks after it began operating a bank of five vending machines outside its supermarket here, A&P notified its customers it was discontinuing the service.

It was the giant chain's first outdoor vending machine trial for dispensing foods at all hours. Some customers had reported difficulties, and critics alleged that the units cut down on in-store traffic. But A&P wouldn't say why it abandoned the experiment.

Vari-Vend Co. of Chicago made the machines. However, Vari-Vend Sales, national distributor, said it had no knowledge of the move.

Grand Union continues a similar test in one of its markets.

FRESNO, Calif.—Chartered in June, San Joaquin valley section of American Society of Refrigerating Engineers has been having 80% attendance by setting up interesting programs and holding meetings at convenient points which have been Merced one month for the north area of the valley, and Hanford the next month for members south.

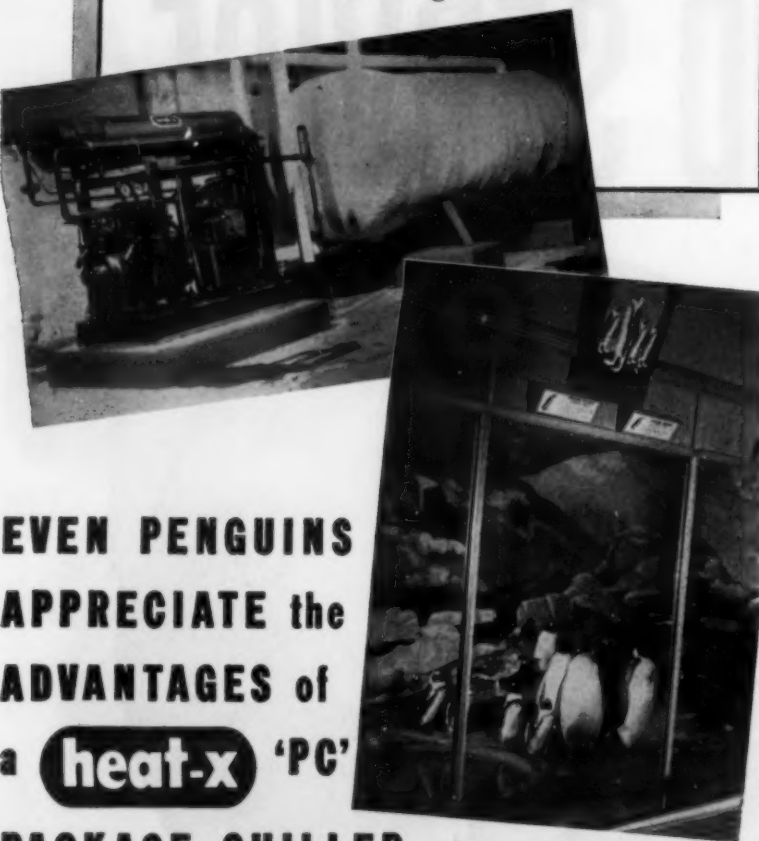
San Joaquin valley section with the area from Bakersfield to Modesto has 45 members and plans to reach a total of 80, according to second vice chairman and membership chairman James Blayney of Fresno.

Roger F. Chesebro is chairman, Richard N. Frick first vice chairman and program chairman, David E. Britton secretary, and Wallace L. Scott treasurer.

### CASE HISTORY

Another Space-Saving Application of Heat-X 'PC' Package Chillers.

National Zoological Park Washington, D.C.



**EVEN PENGUINS APPRECIATE the ADVANTAGES of a heat-x 'PC' PACKAGE CHILLER**

Only with a Heat-X 'PC' Package Chiller could the desired capacity be obtained while allowing sufficient space for the required 400 gal. storage tank.

Here, chilled water maintains the penguin pool at 35° F... is also used to hose down cage floor and maintain cage temperatures at approximately 40° F.

Patented Inner-Fin® design of 'PC' Package Chillers makes possible this maximum capacity with minimum bulk. All-copper construction of water passages eliminates any corrosion problem... assures continued satisfactory operation.

Write for complete information on Heat-X 'PC' Package Chillers in 2 HP through 100 HP models.

**HEAT-X, Inc.**  
BREWSTER • NEW YORK

## JOIN THE COLDIN CAVALCADE



Cash in on the Coldin Profit Parade... the most comprehensive and diversified line of commercial refrigerators in America today. Write for catalogue.

Every Size for Every Need for Every Food Retailer

**Coldin Cabinet Co., Inc.**

2800 Webster Ave., N. Y. 58, N. Y. CY 5-3311

**IMMEDIATELY AVAILABLE GUARDIAN POWER CONTROLS**



**The GUARDIAN POWERLOID**

Designed and tested for 230 V., A. C. loads up to 3 H. P. motor and 8400 watt heater. Available in a variety of contact combinations. Low priced!

write—Arrange for production samples. Request name of your nearest Authorized Distributor stocking complete line of Guardian Relays, Solenoids and Steppers.

**GUARDIAN ELECTRIC**  
1603-B W. WALNUT STREET CHICAGO 12, ILLINOIS

"Everything Under Control"

**GET THEM NOW**... Prototype units and initial production requirements from Guardian Franchised Distributors in U.S. and Canada.



**25 AMPERE**

Interchangeable Coil

**POWER RELAY**

Built to Meet U/L Specifications For motor starting, heater loads, other heavy duty jobs, control more power in less space with this new Guardian Power Relay. D.P.D.T. contacts for 25 amps. continuous duty, 230 V., A. C. Easily interchangeable coils rated at 6 V., 24 V., 115 V. or 230 V., A. C.



# Tie Incremental Periphery System In with Central System To Condition Bldg.

## 457 Through-the-Wall Units Handle Upper Floor Exterior Load

By George M. Hanning

NEW YORK CITY—One of the first large office buildings to be air conditioned by combining an incremental system around the periphery with a central system to handle the interior zones is now being constructed at 72 Wall St. here.

The Remington Corp. incremental system employs 457 "through the wall" individual units to handle the exterior heat load on the upper 10 of the 15 floors of the building. These units are tied in with the perimeter steam heating system of the building to provide either heating or cooling at the flip of a switch.

They are installed below the windows on the exposed sides of the structure and handle the cooling and heating load to a depth of about 16 ft.

### 2 Central Systems Handle Interior Load

Two separate central systems handle the interior zones on these floors. They are designed solely to remove the heat generated by internal sources—such as people, lighting, and business machines. This is a fairly constant load the year around.

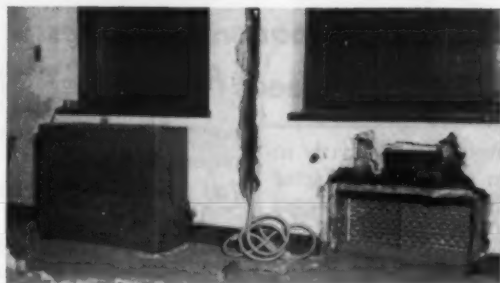
One system, powered by two Carrier 60-ton water chillers in the basement, cools the sixth through 11th floors. A single 120-ton Carrier water chiller mounted on the roof, cools the 12th to 15th floors.

Originally, 72 Wall St., at the corner of Pearl St., was a combination bank and office building. The Seaman's bank occupied the first five floors of the structure. It had its own air conditioning system.

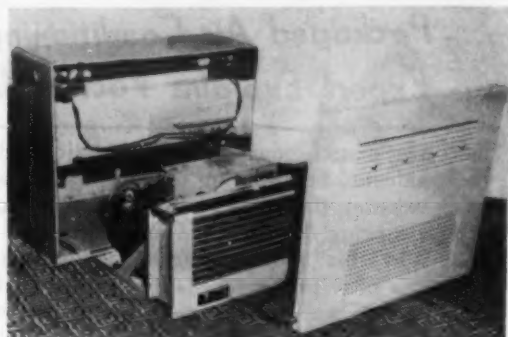
When it was decided to renovate the building, it was also



CUTTING through the heavy masonry wall of the 72 Wall St. building is a specialized job handled by John J. Moran Co. Through these holes will be placed Remington incremental units for individual air conditioning control.



HOW the air conditioning units are fitted into the wall is shown in this view of a partially completed installation.



AN exploded view of the Remington unit showing major components.

decided to knock out the rear wall and extend the building through the block to Pine St. As a result, the rear half of the structure is new construction. The Pine St. half is exposed on all four sides, while one wall of the old Wall St. building abuts on an adjoining structure.

### Retain 150-Ton System

Although the area formerly occupied by the bank will be converted to office space, the bank's air conditioning system is being retained. The first five floors of the new structure will be occupied by a post office. This will also have its own conventional air conditioning system—a 150-ton system divided between two Carrier 75-ton central stations.

All of the new air conditioning equipment is being installed by Eugene J. Brandt & Co., Inc., Daniel Spiegel is engineering the installation for Brandt.

The Remington incremental system, though being installed by Brandt, was sold by Burden, French & Co., exclusive agent for Remington in the metropolitan New York City area. The Carrier equipment was sold by Brandt.

Elmer French, president of Burden, French & Co., noted that by combining the incremental with the central system, the building owners are realizing a big saving in installation costs. Cost of the incremental

system ranges from \$450 to \$700 per ton, he said.

He pointed out that the incremental system is carrying about 60% of the total heating and air conditioning load. By so doing, it cuts down considerably on the size of the central system and ductwork needed.

### Incremental System Gives Individual Control

French asserted that the incremental system gives individual control at each unit. It will not matter how the tenants may decide to partition off their floor space. They will always have sufficient heating and cooling available in each area, he noted.

By connecting the existing

steam lines into the unit's fin coil heaters, each unit can operate on either heating or cooling without reference to any other unit. The thermostatic control on heating operates the fan and the control on cooling operates the compressor, he said.

Each unit—of ¾ or 1-hp. capacity—has its own compressor, cooling coil, and air-cooled condenser assembly. Supply air is drawn directly from the outdoors and is mixed with recirculated room air.

### To Keep Spare Units

A supply of spare units will be maintained by the building superintendent, French said. In

15 minutes, he can remove a defective unit and replace it with a spare. Thus the tenant will never need be without cooling or heat.

At 72 Wall St., the John J. Moran Co. holds the contract for cutting through the exterior walls. George A. Fuller Co.—J. H. Taylor Construction Co., Inc. is the general contractor.

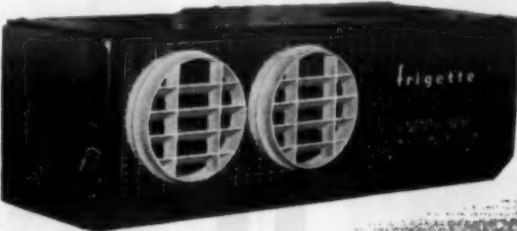
### Central System Operation

On the central system, all air handling is through Buffalo Forge Co. units. Three Lillie-Hoffman cooling towers on the roof conserve water pumped by Weinman pumps. Minneapolis-Honeywell Regulator Co. supplied the controls.

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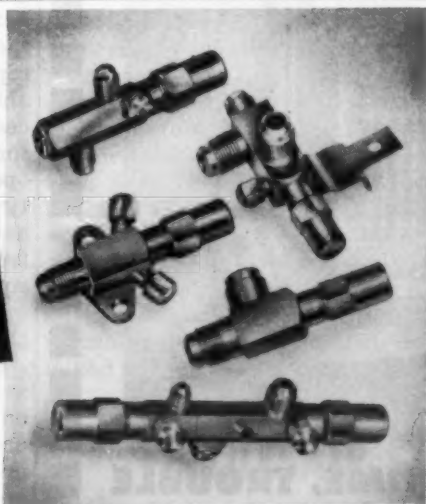
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# Hermetic Compressor Design, Development (2)

**Packaged Air Conditioning Growth Broadens Compressor Range; Expert Explains Factors Involved In Need For Larger Sizes**

Accelerated growth of packaged air conditioning, particularly in the residential field, during recent years has been an important factor in broadening the range of hermetic compressors. Bigger and bigger sizes are being designed and manufactured.

Why this is happening is outlined in this article by Henri Soumerai of Worthington Corp., who traces the development of the hermetic or "seal-less" compressor and goes on to explain numerous design and application factors involved.

By Henri Soumerai, Worthington Corp.\*

## WORTHINGTON'S ACCESSIBLE HERMETIC

At Holyoke we are building at the present time accessible hermetic compressors in sizes from 2 to 7½ tons. They are of the horizontal single throw crankshaft 2, 3, and 5-cylinder types designed for both "Freon-12" and "Freon-22" applications.

At equal displacement the "F-22" machine will produce about 57% more cooling capacity than with "F-12." Since the actual horsepower input per ton of refrigeration is practically the same for both refrigerants the horsepower requirements and the mean pressure differential across the piston will also be 57% greater than with "F-22" than with "F-12."

The motors are cooled by the return gas. This method of cooling is particularly efficient at high suction pressures en-

countered in air conditioning application for which these hermetic compressors have been designed. It also makes the motor-compressor assembly quite insensitive to air ambient temperatures so that it is possible to locate the motor-compressor assembly even in a small unventilated insulated space just big enough to house the compressor.

This is particularly important in modern package air conditioner applications. The typical package air conditioner shown with its front panel removed on Fig. 6 illustrates this point. As you can see, the compressor compartment is quite small, and with the unit front panel in normal position completely unventilated.

### DESIGN OBJECTIVES

The design of the compressor naturally must be adapted to the specific needs of the package air conditioner. Taking all factors in consideration we would list, more or less in order of im-

portance, the following design objectives:

#### (a) Long trouble-free life

As you know, package air conditioners are being sold with a full five-year warranty on the refrigeration cycle. A lot of people, even in our own industry, do not fully appreciate what this five-year warranty means to the compressor manufacturer. Compare this guaranteed life with the life expectancy of the modern automobile which is often used as a yardstick of industrial progress!

Most likely you will feel quite happy if you can get about 50,000 to 100,000 miles of trouble-free service out of your engine. Taking a low average speed of 25 m.p.h., this represents only 2,000 to 4,000 hours of actual operation. In many compressor applications on the other hand, we expect over 4,000 hours per year or 20,000 hours of actual operation in a five-year period.

In other words, these hermetic compressors must be designed with at least five to 10 times more actual life built in them than your automobile engine. Similar comparisons with other home appliances would be even more convincing, but I believe this single example explains why "long trouble-free operation" figures on top of the list.

Incidentally, this comparison between the life of an automo-

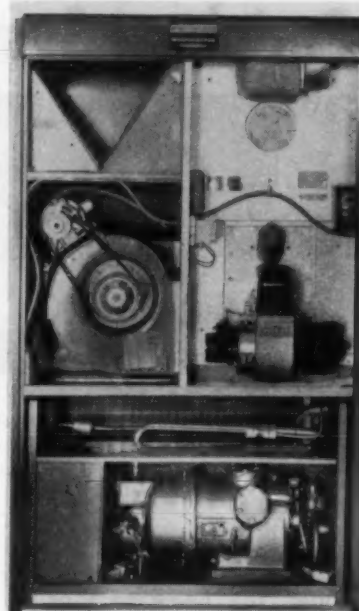


FIG. 6—Note how little space hermetic compressor takes up in this year-round air conditioner.

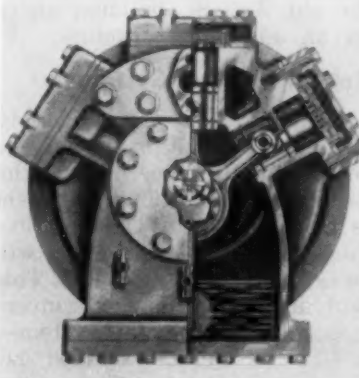


FIG. 7—Cutaway end view of accessible hermetic Worthington is building in 2 to 7½-ton range.

bile and the life of a refrigeration compressor is worth remembering when we are tempted to specify new parts or

materials solely on the basis of automotive experience!

Naturally the design of the compressor must conform with recognized safety codes.

#### (b) Low Cost:

The package air conditioner industry has become a very competitive field. Initial cost is of primary importance, particularly in residential applications where the industry is making an all out effort to sell air conditioning to the average homeowner.

#### (c) Efficiency:

Efficiency, i.e., low power consumption per unit of refrigeration, will become more important as the air conditioning industry reaches the average homeowner. Together with efficiency we should mention the need of electric motors with high power factors (over 85%) to comply with present and future utility rules. Lowest practical inrush currents are also desirable to prevent light flicker on combined light and power systems.

#### (d) Compactness, weight, and shape

Of course, compactness and light weight are desirable, but it is even more important to adapt the shape of the compressor to the specific cabinet design. In our package air conditioners the height and depth of the compressor compartment were the critical dimensions whereas plenty of room was available in the other direction to provide sufficient air filter and coil face area (Fig. 6). Keeping this in mind we came up with a shallow, narrow, slightly "elongated" hermetic compressor.

#### (e) Quietness

The elimination of objectionable noises is an important factor in household and many commercial air conditioning applications. Special emphasis is laid on high frequency noise levels which can be more objectionable than in the low frequency bands. The compressor should be at least as quiet as other unit components.

#### (f) Accessibility:

Generally speaking, this is not an important feature during the warranty period as long as replacements are readily available when needed. However, accessibility gains in importance for the owner when units are operating outside their warranty period. Hermetic compressors are successfully serviced in the field by properly trained and equipped service engineers.

### TYPICAL DESIGN FEATURES

Although more stress is laid on certain design features, the accessible hermetic compressor is still basically a conventional opening compressor with a motor and sealed electrical terminals added to it. For the sake of brevity we shall confine this discussion to those features which differentiate a hermetic from the open-type compressor.

Fig. 7, a transverse section of a 3-cylinder W-type 5-ton "Freon-22" compressor, shows the cylinder arrangement, the vane-type oil pump, valve plate with suction flapper valves and direct lift spring loaded discharge strips.

A longitudinal section of the  
(Continued on next page)

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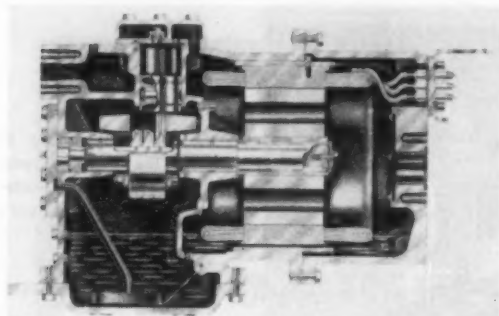


FIG. 8—Longitudinal section of gas-cooled hermetic shown in Fig. 7.

## Hermetic Compressor Units--

(Continued from preceding page) same machine is shown in Fig. 8. The left half of this picture is very similar to a conventional open-type compressor. Toward the right the crankcase is extended to house the stationary part of the motor, the stator, which is pressed and locked in place.

The rotor is mounted directly on the compressor crankshaft. This arrangement eliminates the

following parts used on open-type machines: mechanical seal with its housing, flywheel, motor sheave, belts, and two sets of bearings. This results in a more compact less expensive unit.

To this must be added an outstanding feature of the gas-cooled hermetic compressor: a smaller motor frame size can be used for a given output than with a normal open-type air-cooled electric motor. The reason for this is that the cool refrigerant vapor on its way to the cylinder intakes cools the motor so efficiently that safe winding temperatures are maintained at extreme motor overloads.

Actually the nominal motor horsepower has become so misleading that most hermetic compressor manufacturers stamp full load and lock rotor currents on their nameplates rather than nominal motor horsepower.

The absence of a belt drive further eliminates a prolific source of noise, reduces crankshaft stresses, bearing loads and transmission losses. However, these advantages can be completely wiped out and dangerously high bearing loads produced by magnetic forces when the rotor air gap is not sufficiently uniform. This is particularly serious in the case of motors designed with extremely small air gaps. To assure perfect concentricity the main bearing and stator bores are finish machined in one operation.

A positive displacement rotary oil pump feeds an ample supply of oil to the main and rod bearings through oilways in the crankshaft. The lubricating oil is filtered by an oversize fine mesh strainer before it reaches the pump. A large oil charge and low oil intake tube make the unit quite insensitive to normal oil losses in the system. A relief valve maintains a positive oil pressure constantly.

Gas vents are incorporated in the lubrication system to assure immediate priming after long shut down periods when an abnormal amount of refrigerant is mixed with oil in the crankcase.



FIG. 9—Here is the running gear of a Worthington three-cylinder hermetic.

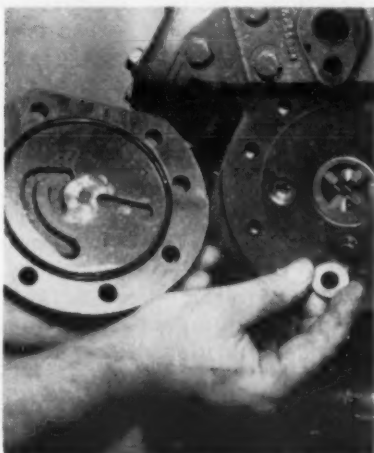


FIG. 10—Cover of oil pump of Worthington hermetic is removed to reveal pump.

The complete running gear is shown assembled in Fig. 9.

To assure long trouble-free life under extreme operating pressures and temperatures encountered on "F-22" air-cooled condensing application we use a forged steel crankshaft case hardened on the main eccentric and journals, with steel back high lead bronze bearings. These bearings are finish-bored in place for close control of running clearances and concentricity. They are conservatively sized for low bearing loads and grooved in the unloaded areas to flood the bearing with oil in both directions of rotation.

The use of light weight aluminum rods and pistons, statically and dynamically balanced crankshaft together with nearly perfect alignment, uniform motor air gap low lift valves and large cast iron discharge manifold are all factors which contribute to a smooth quiet operation.

The oil pump of polyphase hermetic compressors must be able to supply oil to bearings for clockwise as well as counterclockwise rotation, i.e., the pump must be of the "reversible" type. The reason for this requirement is that the direction of rotation of a polyphase hermetic motor is not readily visible at the time of installation and we have to make sure of proper lubrication no matter how the power leads are connected to the compressor terminals.

The vane-type oil pump is

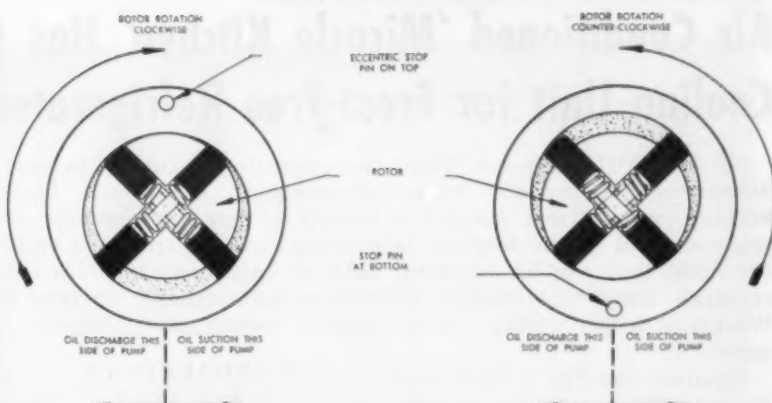


FIG. 11—Oil pump must be reversible to insure compressor lubrication regardless of direction of motor rotation.

shown assembled in the crankcase with pump cover removed in Fig. 10. The basic reversing mechanism is illustrated in Fig. 11. The pump rotor is driven by the compressor crankshaft; swings 180° with each change spring forces, oil pressure, and centrifugal forces keep the vanes in contact with the normally stationary eccentric.

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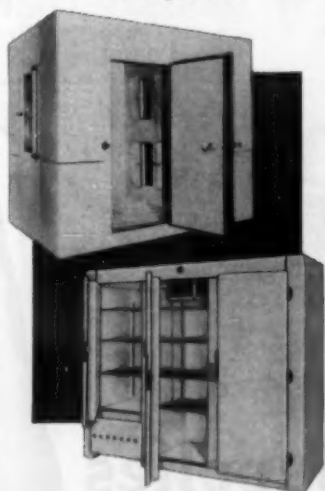
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## Air Conditioned 'Miracle Kitchen' Has Central 'Piped Cold' Cooling Unit for Frost-Free Refrigerated Compartments

ST. JOSEPH, Mich.—A "third dimension" in modern house-keeping, remote and automatic space control in the kitchen, is the basic theme of an advanced research project developed by Whirlpool-Seeger Corp. engineers.

Entitled the "RCA Whirlpool Miracle Kitchen," the exhibit, which is completely functional, has been designed to demonstrate possible future mechanical kitchen innovations that are in various stages of development in the Whirlpool-Seeger engineering and research laboratories.

"At the wave of a hand, a refrigerator moves down from a wall cabinet to convenient reach-in level," it was pointed out. "Temperature and humidity

are accurately regulated in each compartment to provide ideal conditions for preservation of various foods. A fruit and vegetable storage drawer glides out from a base cabinet, as does a similar freezer compartment.

### INEXHAUSTIBLE ICE SUPPLY

"Beverages may be stored at proper serving temperatures in bottles or in bulk. Hot or cold liquids may be dispensed from bulk storage compartments into a drinking glass on contact with an automatic tap. An inexhaustible supply of clear ice, in any size from large cubes to fine powder, is dispensed in the same manner.

"Located at appropriate work centers throughout the kitchen,

these refrigerated compartments are frost-free. One central cooling unit serves all. Whirlpool-Seeger engineers call the new cooling method 'piped cold.'

In the spotless, filtered, air conditioned kitchen, illuminated by indirect lighting, a self-propelled serving cart "will detach itself from a dishwashing mechanism in the wall, move to a dining table, deliver complete table service or receive soiled dishes, then return to its nest in the wall to dispose of waste and do the dishes. The entire operation is by predesignated control.

"The kitchen floor is kept spotless by a mobile floor cleaner which functions automatically on its own. Dispatched by remote control, the 'mechanical maid' disappears into a base cabinet recess when the scrubbing job is done. There it recharges itself with washing agent and water for the next cleaning operation.

"The floor cleaner may also be used as a waxer and polisher. Both the dishwasher cart and floor cleaner are powered by batteries which are automatically charged when the units are in their respective wall niches."

### FOOD STORAGE SHELVES LOWER FROM CABINETS

Operations which take place automatically at the wave of a hand include "food storage shelves that are lowered from wall cabinets to an accessible level just a few inches above the countertop, a utensil storage drawer that glides open, a drop-down storage rack for drinking glasses, and a self-cleaning mixing unit which will drop from wall cabinet storage to counter and mix, blend, grind, or shred foods at selected speed and duration. Part of this unit is removable for use as a portable, self-powered mixer.

"Meal preparation is further simplified by a wide range of self-cleaning, automatic cooking facilities. An oven with automatically controlled time and electronic energy descends to counter level for easy accessibility and rises again for ultra-fast cooking. A menu selection control at the planning center



AT the press of a button or wave of the hand, several operations take place automatically in RCA Whirlpool's new "Miracle Kitchen."

will activate a completely automatic meal maker which moves selected prepared foods from cold storage to compartments for cooling, warming, or cooking. In addition to the meal maker and the adjacent electronic oven is an electronic grill for broiling meats and vegetables.

"Usable also as work surface or dining bar, a surface cooking range has a number of tiny disks which will release energy on contact with a specially designed utensil. The cooking-serving utensils are constructed so that the exterior remains cool while the food heats. An electronic fan and air purifier system draws grease, odor and moisture from the air through ventilating slots located behind each thermostatically controlled contact unit.

"The semi-circular range wraps around the back of a free-standing planning center which is the heart and brain of the RCA Whirlpool Miracle Kitchen. On it are touch controls for audio and visual communication, food selection, recipe selection, the mobile dishwasher cart, the floor cleaner, and the automatic meal maker.

"At the planning center, a rotating TV monitor, visible from any point in the room, shows at a glance activity at the front door, nursery, game room, or any other location about the house. A standard TV broadcast may also be received.

"Expansive use of natural materials, combined with architectural styling, presents in the Miracle Kitchen a new concept of kitchen color and design. Accented by colorful panels, rosewood base cabinets stand several inches off the floor on slender brass legs. The free-standing cabinets are designed for easy cleaning of the entire kitchen.

"Operated from the control

center, mood lighting ranges from utilitarian white to cool blue to warm pink providing the psychological benefit of cool lighting on a hot, humid day or warm lighting in cold, rainy weather. Any combination of the three colors may be selected. Light is diffused by an arched ceiling and soffits of translucent vinyl.

### COLOR RECIPES PROJECTED ON WALL

"Other features of the kitchen include color projection of recipes on the wall, a large wall projection surface for color television reception, an inventory panel that shows exact status of food on hand and would advise the grocer of shortages, and a canned food dispenser which will deliver a can intact or open it automatically, release the contents, and destroy the can.

"Elevator sinks are custom adjusted to the height of the user. Temperature and flow of water are controlled by push-buttons. When not in use, the two sinks may be concealed under counter-top panels.

"A current 1957 RCA Whirlpool appliance in an adjoining laundry area is a new combination washer-dryer that washes up to 10 lbs. of clothes out of water by giving the clothes a shower instead of a bath."

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# What Was New At the Builders Show

Pictures on this and the following two pages are of products shown at the Builders Show. For further information on these products, use Key Number and the "Information Center" blank on page 26. Other pictures of the show appeared in the Feb. 4 issue.



—KEY NO. G-2211—

LEFT: With air intake and discharge on the same side, the new Lennox remote condensing unit can be mounted flush with the outside wall of a home, Don Wiscomb, Lennox sales engineer in Salt Lake City, explains to Peggy Cutler.



—KEY NO. G-2213—

NEW CYCLE TIMER on the left and refrigeration defrost timer on the right are displayed by Jane Roberts. Both are made by International Register Co.



—KEY NO. G-2215—

LEFT: Frigidaire's new compact "CARY-200" air-cooled condensing unit that provides 2 tons of cooling in a "weather-armor" cabinet measuring only 25 1/2 in. high, 25 in. deep, and 29 in. wide gets a loving pat from Pat Lau.

—KEY NO. G-2212—

RIGHT: "Comfort Mates" heating and cooling system combining baseboard radiation with chilled water cooling unit are pointed up by Marilyn DeLee in the Spi-Rol-Fin Corp. booth. Phil Orr, Spi-Rol-Fin advertising manager is at right.



—KEY NO. G-2214—

FIRST SHOWING of compact, self-contained air conditioner by Timken Silent Automatic Div., Scaife Co., was made at Builders Show. K. O. Ralphs, sales manager (l.) tells unidentified show visitor that with this cord it can be sold as a plug-in unit on a 230-volt line. Unit is made in 20,000 and 36,000 B.t.u. capacities.

—KEY NO. G-2216—

RIGHT: New 6-in. blanket of spun mineral wool insulation, designed particularly for air conditioned homes, catches the eye of builders passing the Baldwin-Hill Co. booth. The company recommends 6 in. of insulation in the ceiling, 3 in. in the walls, and 2 in. in exposed floors.



—KEY NO. G-2217—

LEFT: "Adaptomatic" 3-hp. residential air conditioner was shown for the first time by Fedders-Quigan Corp. at the Builders Show. Harold Boxer, Fedders advertising manager (r.) explains to Bob Zien, Milwaukee contractor, that the unit is available in 21,500 and 33,000 B.t.u. capacities.



—KEY NO. G-2218—

RIGHT: New fashion thermostat for heating and air conditioning is designed to catch the stylish housewife's eye, according to Gerry Powell, regional sales manager of White-Rodgers Co.



—KEY NO. G-2219—

FLANKING the Peerless Corp.'s "Clima-Pump" air-to-air heat pump are Temple Clifford, Peerless regional sales supervisor (l.) and Bill Cheek, salesman. The Clima-Pump is made in 3 and 5-hp. sizes.

## LEHIGH BLU-COLD CONDENSING UNITS

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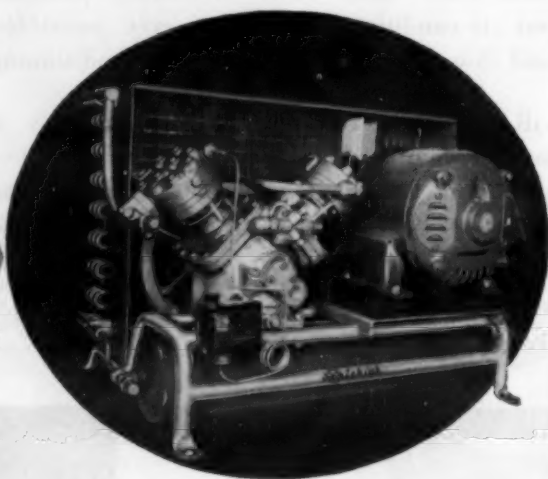
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## Residential Air Conditioning

### —KEY NO. G-2220—

RIGHT: Studying a panel illustrating how Iron Fireman Mfg. Co. heating and cooling units combine to provide year-round individual room temperature control is Bob Lunt, Iron Fireman sales engineer.



### —KEY NO. G-2224—

COMPLETELY ASSEMBLED AND wired at the factory is this new "Luxaire" gas-fired sectional furnace with 100,000 B.t.u. input and 2-ton cooling coil introduced by C. A. Olsen Mfg. Co. A. J. Ritter (l.), manager of "Luxaire" summer air conditioning sales, tells N. W. Clark of Akron, Ohio, that blower and motor slide out of the cabinet on built-in rails.



### —KEY NO. G-2226—

GETTING THE WORD ON the new "Mor-Sun" 2-hp. and 4-hp. residential, air-cooled air conditioners from S. Morrison, president of Morrison Steel Products, Inc. (r.) is Earl Virts, Fort Wayne, Ind. contractor.



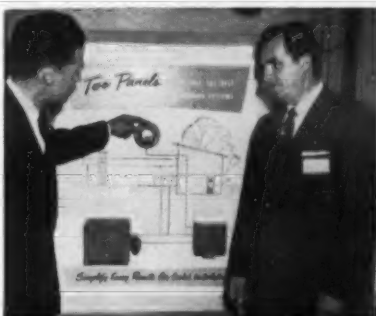
### —KEY NO. G-2228—

EXPOSING CONCEALED CONTROLS of Amana "Slim-Lo" room air conditioner demonstrated in mock-up window is Joseph Guertin, Amana representative.



### —KEY NO. G-2221—

LEFT: Helping Airtemp put over its "Springtime anytime" presentation on residential air conditioning to builders are Peggie Hammer and Marilyn Griffith of Chicago.



### —KEY NO. G-2225—

MINNEAPOLIS - HONEYWELL thermostat that controls operation of both remote condensing unit and inside evaporator on residential systems is explained by Einer Graff, M-H representative in Chicago (l.) to Pete Snyder, Findlay, Ohio builder.



### —KEY NO. G-2227—

WALL FURNACE designed for mobile homes was exhibited by International Oil Burner Co. Louis Heiman, sales manager explained that it has a gross output of 55,000 B.t.u.h.



### —KEY NO. G-2229—

NEW REMOTE-TYPE heat pump in 36,000 and 60,000 B.t.u. cooling and 75,000 and 105,000 B.t.u. heating capacities was shown by Majestic Co., Inc. Brooks Kerchoff, Majestic district sales manager (l.) tells David S. Rico of Tucson, Ariz. that the unit features a special "quiet-cate."

### —KEY NO. G-2222—

RIGHT: Demonstrating how the 2-ton "Vornado" unit is incorporated in a complete home air conditioning system as installed in an attic are Lois Conway (l.) and Lore Oakley.



### —KEY NO. G-2223—

LEFT: Carrier Corp.'s new 800 series furnace and 38C "Weathermaker" air conditioning unit are demonstrated for G. E. Jessop of Salt Lake City (l.) by Stewart A. Funk and George Duncan (r.) Carrier representatives in Dallas and Chicago, respectively.



## Reserve Your Extra Copies Now of the March 18

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Includes specifications on every major 1957 Air Conditioner . . . more than 38,000 facts on over 1,200 Room, Residential, and Commercial packaged units.

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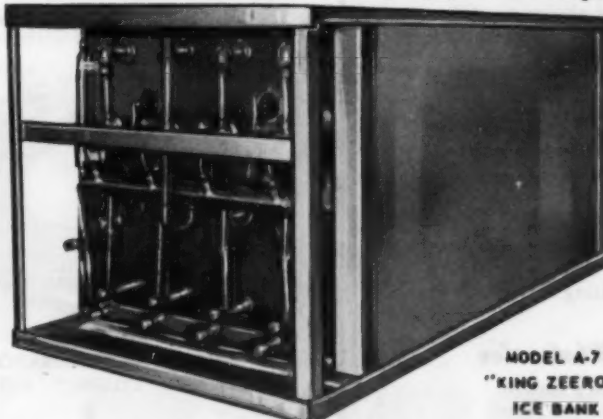
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# What Was New At the Builders Show (Cont.)



—KEY NO. G-2230—  
LEFT: Half the size of former models and one third the weight is the new WT32D "Weathertron" heat pump exhibited for the first time at the Builders' Show. Placed on the outside wall, it can project as little as 14 in. into the home.



—KEY NO. G-2233—  
NEW "AIR-MATIC" gas furnace with 3-ton add-on air conditioner is shown by Jack Gleason (l.), sales manager for Eureka-Williams Corp. to Mrs. Nool.



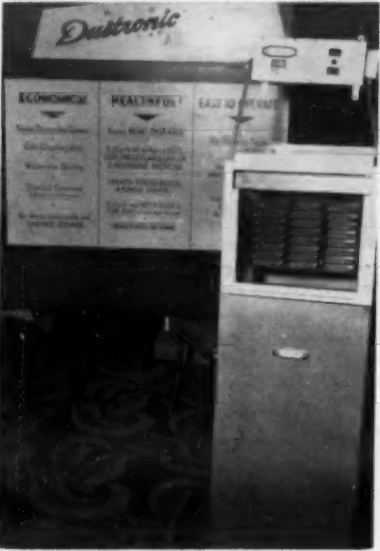
—KEY NO. G-2236—  
LEFT: Explaining the many ways the York "Pathfinder" series air conditioners can be installed in a home is Walter Landmesser (l.), sales manager of residential and commercial air conditioning for York Div., Borg-Warner Corp. Looking on are Dick Spring of Chicago and Robert A. Halla, (r.) manager of products and application engineering.



—KEY NO. G-2231—  
EXPLAINING FAN POSITION SWITCH for fan operation and for two-stage cooling that goes with Coleman Co.'s "Polar Pak" air conditioner is Bill Hattan, Coleman sales training director (l.). James H. Klompars, Holland, Mich. builder, listens.



—KEY NO. G-2232—  
THERMOSTAT OPERATED attic exhaust fan in one package provides an air change every four to five minutes, James B. Gantt, advertising manager for the Hunter Div., Robbins & Myers Co. (l.) tells William Pearce of Toronto.



—KEY NO. G-2234—  
"DUSTRONIC" electrostatic precipitator that does not generate ozone was exhibited at the Builders Show by Radex Corp.



—KEY NO. G-2238—  
NEW CRANE CO. "Sunnyland" gas-fired 100,000 B.t.u. input furnace with 2-ton evaporator coil is shown by Jim Neall, (l.) district field representative, to Mr. & Mrs. Leslie Henry of Detroit.



—KEY NO. G-2239—  
POINTING OUT THE one additional control—a low temperature control for cooling—on the Servel "Sun Valley" year-round air conditioner that does not appear on an ordinary furnace are R. M. Brand, Chicago zone air conditioning sales manager (r.) and Russ Brown, Servel, Inc. chief application engineer. The unit provides 3.5 tons of cooling and 96,000 B.t.u. output of heat.



—KEY NO. G-2235—  
TRANSFORMING A GAS-FIRED furnace to a year-round heating-cooling system without loss of additional floor space is feature of American Furnace Co. line, R. A. Cromwell (r.), vice president, tells John Ecke of the LaCade Gas Co., St. Louis. Unit shown is SV 100BP "Comfortmaker."

## MOTOR BASE ADAPTERS Sell Many Other Items

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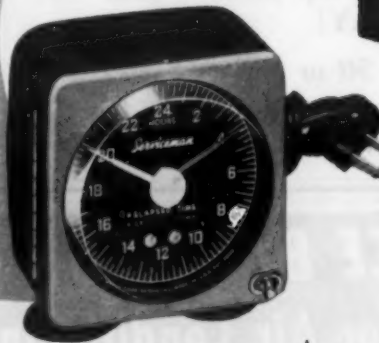
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This great addition to the "Serviceman" line does a vital job supremely well. Its white hairline pointer shows total time of test; red pointer shows total running time. It is easier to read, use, and interpret than a recorder . . . has no charts or leaky pens to bother with . . . yet it is very moderately priced.

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# NEW

## COMMERCIAL REFRIGERATION SECTION STARTS MARCH 25 IN AIR CONDITIONING AND REFRIGERATION NEWS

Commercial refrigeration design, financing, merchandising, and installation will be given special emphasis in the new once-a-month Commercial Refrigeration Section starting March 25, 1957.

The NEWS recognizes in the growth of commercial refrigeration renewed importance of the independent contractor-dealer. He has amazing opportunities for profit as he establishes his own importance in the distribution picture at an ever higher level.

Manufacturers need his improving concepts of store layout, his better trained engineering and installation personnel, and his solid backing of installations with adequate dependable service.

So NEWS editors will provide a concentration of stimulating, dramatic news and feature articles in the new Section to help more dealers do the "big job."

In addition to this monthly section, all weekly issues will continue to carry timely news of the field.

Commercial refrigeration manufacturers are invited to take advantage of this new service with concentration of advertising to tie in dramatically with the Section.

**ACT NOW . . .** Plan your advertising to support and influence these important men at the "business end" of the distribution line—the contractor-dealers.

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# NEWS

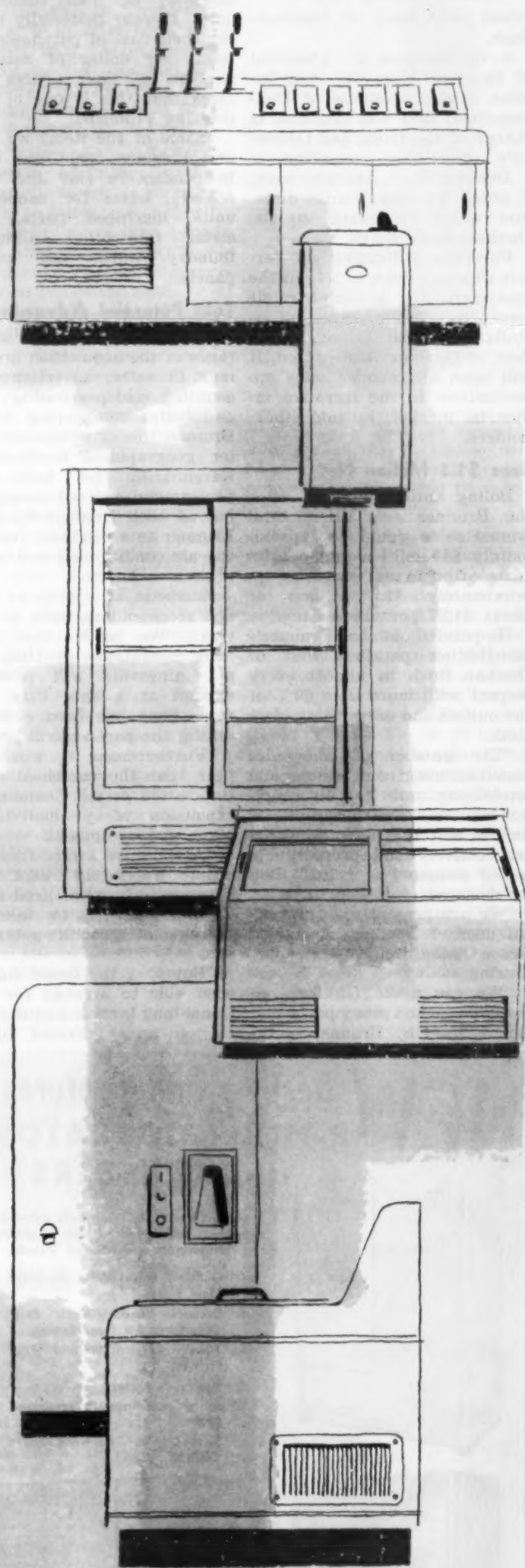
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MURRAY HILL 2-1928-9, ROBERT M. PRICE.

• CHICAGO, 134 S. LA SALLE ST.,  
FRANKLIN 2-8093, AL SCHILDHAMMER.

• LOS ANGELES, 4710 CRENSHAW BLVD.,  
AXMINSTER 2-9501, JUSTIN HANNON.

• DETROIT, 450 WEST FORT ST.,  
WOODWARD 2-0924, J. B. SULLIVAN.





## Directors Agree to Brunner Sale--

(Concluded from Page 1)

owned subsidiary of Dunham-Bush.

A. G. Zumbun, Sr., president of Brunner Mfg. Co., will become a vice president of Dunham-Bush and will continue in charge of the Utica and Gainesville operations, according to a Dunham-Bush announcement. It added that two Brunner directors would be named to the Dunham-Bush board.

Purchase of Brunner will permit Dunham-Bush to sell all the equipment for a complete air conditioning or refrigeration installation, Cecil Boling, president of Dunham-Bush stated. It will open up broader sales opportunities in the lucrative industrial market, he told stockholders.

### Sees \$1.5 Million Net

Boling anticipates that after the Brunner acquisition, total annual sales would be approximately \$40 million and net income after taxes would be approximately \$1.5 million or about \$1.27 per share.

He pointed out that Brunner's distribution parallels that of Dunham-Bush in almost every respect with more than 60% of the outlets and users being identical.

"The number of companies manufacturing compressors and condensing units for air conditioning and refrigeration is limited and the potential for a progressively and properly operated company is great," Boling declared.

"We are presently a substantial user of Brunner machines. Hence there would be a purchasing savings."

"We can make (in fact, already do make) many parts that can be used by Brunner in the

assembly of their condensing units, thereby materially reducing their cost of purchased material per dollar of sale. An analysis of their figures indicates that this is one of their pressing problems.

"Some of the items we make and Brunner could use would be condensers (air and water cooled), bases for condensing units, machined parts, sheet metal fabrication, aluminum foundry work, and control panels.

### Tells Potential Advantages

"Some other potential advantages of the acquisition are savings in sales, advertising, accounting, and purchasing; more and better engineering for the Brunner line of equipment; better geographical locations for warehousing for both companies; and over-all strengthening of both Dunham-Bush and Brunner as a dominant factor in the air conditioning and refrigeration industry."

Zumbun, in a letter to Brunner stockholders, said in addition: "We believe that Brunner's operations at Utica and at Gainesville will profitably expand at a rate even more rapid than has been evidenced during the past several years.

"Furthermore, it would appear that the combined operation would permit financing the expansion of productivity of plant and equipment.

"As you are aware from material previously sent you, Brunner is in great need of additional finances to take advantage of growth potentialities.

"But . . . the board has not been able to arrange for additional long term and equity capital on terms deemed by the

board advantageous to Brunner primarily because of the present condition of the money market."

Brunner stockholders were also informed that the purchase agreement has the support of Fusz-Schmelzle & Co., St. Louis broker. Fusz-Schmelzle last summer solicited proxies among Brunner stockholders in opposition to a proposal to sell Brunner to Bendix-Westinghouse Automotive Air Brake Co. The proposal was defeated.

The letter to stockholders said the Dunham-Bush offer, in addition to the stock and debentures, also would provide, for each \$100 in debentures, a warrant for one share of Dunham-Bush common stock at \$12, exercisable for five years, it was explained.

The letter said Dunham-Bush is currently paying an annual dividend of 60 cents per share as compared with 30 cents per share by Brunner.

Dunham-Bush was formed last June through a merger of Bush Mfg. Co. here with the C. A. Dunham Co. of Chicago.

Bush, founded in 1907, manufactured commercial refrigeration and air conditioning equipment and heat transfer products.

Dunham, in business since 1903, made a line of heating equipment.

Brunner started out in 1906 and is making refrigeration condensing units, packaged air conditioning equipment, and air compressors.

### To Offer Full Line

Their combined production, said the letter to Brunner stockholders, "would enable production and distribution of one of the most complete lines of heating and cooling equipment available in the market."

Dunham-Bush has plants located here and in Brewster, N. Y., Croton Falls, N. Y., Riverside, Calif., Michigan City, Ind., Marshalltown, Iowa, Toronto, Ont., Can., and London, England. They utilize approximately 758,000 sq. ft. of plant area and employ 1,344 persons.

Brunner has plants at Utica, N. Y., and Gainesville, Ga., containing 215,000 sq. ft. of area and employing 600 persons, it was added.

### Dunham-Bush Declares Quarterly Dividend

WEST HARTFORD, Conn.—The board of directors of Dunham-Bush, Inc. recently declared a dividend of 15 cents per share on the common stock payable March 15, 1957, to stockholders of record March 1, 1957, it was announced.

The regular quarterly dividend of \$1.25 per share on 5% preferred stock March 15, 1957, to stockholders of record March 1, 1957, was also declared, the company added.

### Market To Be Cooled

GREENSBORO, N. C.—To be equipped with year-round air conditioning throughout, construction is going forward on a new \$275,000 supermarket on Walker Ave. for occupancy by the Great Atlantic & Pacific Tea Co. The building will contain about 14,000 sq. ft. of floor space.

## Government Contracts

### SYNOPSIS OF PROPOSED PROCUREMENT

#### ARMY

Commanding General, Frankford Arsenal, Philadelphia 37, Pa. INSTALLATION OF AIR CONDITIONING SYSTEM on 4th Floor of Bldg. 202—Job—IFB 57-312(B)—Bid Opening 18th Feb. 57.

Omaha District Corps of Engineers, 1709 Jackson St., Omaha 2, Nebr., Attn.: Const. Div.

CENTRAL HEATING PLANT ADDITION, MINOT AFB, MINOT, N. DAKOTA. The work will include: (a) A 52 ft. x 21 ft. extension to an existing heating plant; steel frame, corr. asm. cement siding, concrete foundation; (b) High temp. hot water generating equipment; two 25,000,000 B.t.u./hr. boilers, three boiler circulating pumps, steam converter; two variable speed distribution system pumps; feed water treatment equipment and associated accessories—Job—IFB Eng-25-066-57-70 (Readvertisement) Bids will be opened 28 Feb. 57 (Minot, North Dakota) Drawings, specs, and bid forms will be furnished by above office, no deposit required.

QM Purchasing Agency, Columbus General Depot, Columbus 15, Ohio. REFRIGERATORS, MECHANICAL, HOUSEHOLD, 2 line items, Fed. Spec. AA-R-00211D—various quantities—IFB 57-403—Bid Opening 18 Feb. 57.

Purchasing and Contracting Office, Camp Hanford, Wash. The 5 following items are procured under IFB AVI-45-171-57-32B—Bid Opening 13 Feb. 57.

CASE, FROZEN FOOD CENTER, 12 ft. lg. Hussmann Model LF12Y56 or equal, equipped with ends, compressor unit, defrost control and disconnect switch, 2 ea.—CASE FROZEN FOOD, Hussmann Model LC12Y56 or equal, 1 ea.—CASE, MEAT DISPLAY, Hussmann model nr OT12Y56 or equal, 1 ea.—CASE, DAIRY DISPLAY, Hussmann Model D12 or equal, 1 ea.—SCALE WEIGHING, Sanitary Scale Corp. Model 30A60 Type V10 or equal, 2 ea.—Bid Sets available to 8 Feb. 57.

New York District, Corps of Engineers, 111 East 16th St., New York, N. Y. CONSTRUCTION CENTRAL HEATING PLANT AND STEAM DISTRIBUTION SYSTEM, GRIFFISS AFB ROME, N. Y.—Job—IFB ENG-30-075-57-322—Bid Opening 7 March 57.

QM Purchasing Agency, Columbus General Depot, Columbus 15, Ohio. REFRIGERATOR, MECHANICAL, HOUSEHOLD 4 line items, Fed. Spec. AA-R-211C and Amendment No. 1—various quantities—IFB 57-427B—Bid Opening 28 Feb. 57.

#### NAVY

Resident Officer in Charge of Construction, Naval Air Station, Jacksonville, Fla. AIR CONDITIONING, Building No. 1, and ventilating Building No. 913, NAS Jacksonville, Fla. Ten Dollar deposit for plans and specs.—Job—IFB 8702/57—Bid Opening 14 Feb. 57.

District Public Works Officer, 4th Naval Dist., Bldg. NR 1, 2nd Fl., U. S. Naval Base, Philadelphia, Pa.

MODIFICATION OF AIR CONDITIONING SYSTEM Ail and Apel Bldg. NR 2, Naval Air Development Center, Johnsville, Pa.—Job—IFB 8959/57B—Bid Opening 21 Feb. 57.

United States Naval Air Station, Corpus Christi, Texas.

The following items are procured under IFB-216110-57 B—Bid Opening 28 Feb. 57.

DEEP FAT FRYER Mercury 330 Model 22-56 or equal—2 ea.—ROASTER MAGIC CHEF Model GC-17A or equal, 1 ea.—STEAM COOKER Cleveland Range Steamcraft Model 2-S or equal, 1 ea.—GAS BROILER Morley HD7534 or equal, 1 ea.—GRIDDLE TOP RANGE Morley HD75-3 or equal, 1 ea.—GRIDDLE Hot Point Rocket 12X(HGB55) or equal, 1 ea.—ROLL WARMER Toastmaster Model 3D8-4 or equal, 1 ea.—HOT TOP RANGE Morley HD75-1 or equal, 1 ea.—MEAT CHOPPER Hobart 4322 or equal, 1 ea.—FOOD CUTTER Hobart T-215-GAP or equal, 1 ea.—POWER MEAT SAW Toledo 5200 or equal, 1 ea.—SLICER HOBART 1512 or equal, 1 ea.—PEELER Hobart 6115 or equal, 1 ea.—WATER COOLER Star Metal Mfg. Co. Model 7474 or equal, 1 ea.—ICE CREAM FREEZER Kelvinator Model 54D13 (8HDR) or equal, 1 ea.—GLASSWASHER Hobart BW-10 or equal, 1 ea.—DISH-WASHER Hobart XM-4 or equal, 1 ea.—ICE MAKER Frigidaire 200 pound capacity ice cube maker or equal, 1 ea.—COFFEE URN Sealweld SWT-205-6 or equal, 1 ea.—DOUGH RETARDER Salad Refrigerator Vimco Model RDS-60-S or equal, 2 ea.—MIXER Hobart H-600 or equal, 2 ea.

#### AIR FORCE

Purchasing and Contracting Officer, Patrick Air Force Base, Fla. BLOWER UNITS—One Item—IFB 08-606-57-258—Bid Opening 25 Feb. 57.

Procurement Division, Holloman Air Force Base, P.O. Box 393, N. Mex.

EVAPORATIVE COOLER RECONDITIONING at Holloman Air Force Base.

New Mexico consisting of completely reconditioning a total of 302 evaporative coolers varying in size from 3,000 to 10,000 c.f.m. Cooling Units will be repainted, new pump, belts and pads will be installed by the contractor—Job—IFB 29-600-57-129(B)—Bid Opening 25 Feb. 57.

1352D Motion Picture Squadron AFPS (MATS), 8935 Wonderland Ave., Los Angeles 46, Calif.

MODIFY AND EXTEND EXISTING AIR CONDITIONING SYSTEM at issuing activity, excluding compressors, in accordance with supplied drawings and specifications—Job—IFB 04-601-57-5—Bid Opening: 19 Feb. 57.

#### GENERAL SERVICES ADMINISTRATION

General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D. C. WINDOW TYPE AIR CONDITIONERS—60 ea.—IFB FN-3H-7451A-A—Bid Opening 2-14-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 South Clark St., Chicago, Ill.

WALK-IN SHARP FREEZER at the U. S. Public Health Service Hospital, Chicago, Ill.—Job—IFB D&C 118—Bid Opening 2-12-57.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.

BOILER ROOM EXTENSION AND NEW HEATING BOILER, Savannah, Ga. U. S. Public Health Service Hospital Laboratory, Oatland Island—Job—IFB CR4-1502A—Bid Opening 3-1-57.

## NEW Designs and Features! P-H REFRIGERATORS and FREEZERS



MODEL P 40-2 Self-Contained



MODEL SA 15-15 Two-Temperature Refrigerator

Important features of the newly styled and completely redesigned P-H line of commercial refrigerators and freezers include:

- ★ Genuine Porcelain or Stainless Steel Finish.
- ★ Exclusive "Grad-U-Matic" Self-Defrosting Air Conditioning.
- ★ Tubular Electric-Welded Steel Frames.
- ★ Heavy Fiberglass Insulation.
- ★ Solid or Triple Thermopane Doors.
- ★ Self-Contained or Remote Central.



MODEL P 66-3 Self-Contained

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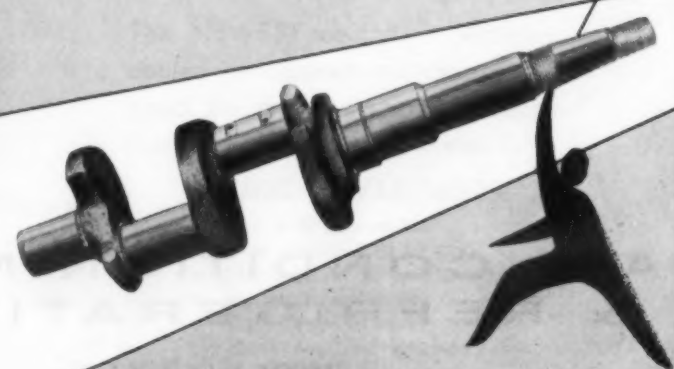
**PUFFER-HUBBARD REFRIGERATOR CO.**  
GRAND HAVEN, MICHIGAN

EXPORT OFFICE — PUFFER-HUBBARD INTERNATIONAL —  
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CUDAHY, WISCONSIN



## Servel Reduces Net Loss In '56--

(Concluded from Page 1, Col. 5) to \$26,950,657 in 1956. Defense product sales, principally aircraft wings and components, declined from \$26,373,187 in 1955 to \$15,714,714 in 1956.

Principal causes of the decline in civilian sales, the report points out, were unfavorable industry-wide market conditions for refrigerators, and the discontinuance of unprofitable products. The decline in defense sales was attributed chiefly to the completion of major contracts, and to cutbacks and changes in government requirements.

The Servel report told of the company's decision to concentrate its production resources on refrigeration and air conditioning products employing the absorption-type freezing system. This system was first introduced by Servel in its gas refrigerator in 1926, it was noted.

Servel's 1957 household refrigerators are operated by gas or kerosene. The company's central-type "all-year" air conditioners operate on gas, oil, or steam.

The report said an important addition to the all-year air conditioning line in 1957 "will be a 3-ton oil-operated model. This unit, developed in cooperation with two of the affiliates of the Standard Oil Co. (New Jersey), has already undergone extensive field testing, and will be ready for production-line manufacture in 1957."

Ruthenberg and Menzies reported increased consumer interest in the company's automatic ice-maker feature, which freezes ice cubes without trays

and automatically stores the cubes in a container for ready use. In 1956, where purchasers of Servel refrigerators had a choice, 73 out of every 100 ordered models equipped with the automatic ice-maker, it was stated.

"A number of refrigerator manufacturers are now testing Servel's automatic ice-maker for possible inclusion in one or more of their 1958 models," the report disclosed.

Regarding the company's "Wonderbar" portable refrigerator, the report said the Sheraton Corp. "has worked with Servel engineers in designing a special ice-maker Wonderbar to be built into rooms and suites of the new Sheraton-Dallas hotel."

A separate sales department has been set up to exploit the large potential market for the Wonderbar, the report added.

During the 1956 fiscal year, Servel continued its program of contraction, aimed at "concentrating on products which have traditionally contributed most to Servel profits," and at "reducing the company's facilities and work force to a size consistent with the current needs of the business."

The net effect of the program of contraction, according to the Servel report, will be "to reduce overhead and thus help the company to become a lower-cost producer, to improve the company's cash position, and to provide cash for the acquisition of profitable businesses and thus take advantage of Servel's large carry-forward income tax credit."

## Sees Egg Vendors Upping Sales--

(Concluded from Page 1, Col. 4) grams of production, packaging, and handling from the farm to the retail store."

He says it appears the grading of eggs may shift considerably toward quality determination by sample candling or breakouts, rather than through candling of an entire lot.

"The development and use of automatic, mechanical devices in the field of egg grading will greatly influence egg production and marketing programs," says Bragg.

The specialist also notes that because of a less seasonal variation in production and a fairly uniform year-round demand, "cold storage warehousing of shell eggs may soon be almost a thing of the past."

"However, the need for egg cooling equipment on farms and for vehicles in transit, as well as for refrigerated storage of frozen eggs, chickens, turkeys, and ducks will probably continue to increase," he said.

Bragg says the shift from

railroad to motor truck transportation for eggs appears to be almost complete.

He adds that there is a strong trend toward greater use of motor trucks in transporting live and dressed market poultry because of the reduction, in many instances, in the length of time in transit.

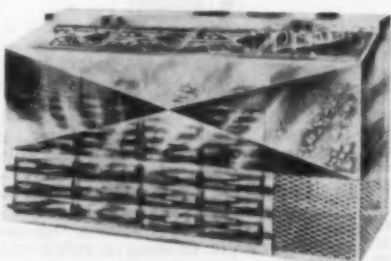
There also is a greater percentage of deliveries made direct to retail outlets by truck.

### Augusta Dealer Moves

AUGUSTA, Ga. — Sig Cox, refrigeration and air conditioning firm, has moved into its new quarters at 1431 Greene St.

The firm, which has been in the air conditioning and refrigeration business in Augusta since 1926, has acquired the General Electric franchise for the "Weathertron" heat pump. In addition, it handles a complete line of General Electric residential, commercial, and industrial heating and air conditioning equipment.

### "A CASE OF COOL JUDGMENT"



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DRINKMASTER**  
STAINLESS STEEL  
CUBER — COOLER.

SOLD THRU DEALERS ONLY  
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**United Friguator Engrs.**  
MENOMINEE, MICH.

AVAILABLE IN SIZES 4 to 10 FT.

### CORRECTION

A "minus" sign where a "plus" sign should be will make a lot of difference in the formula given by John A. Schenk, director of engineering for Alco Valve Co., for figuring pressure at the thermostatic expansion valve outlet.

The formula appeared on page 22 of the Feb. 4 issue in Schenk's article on thermostatic expansion valve selection. The correct formula is

$$I = E + (F + G + H)$$

where  
E is compressor suction pressure.

F is pressure drop in suction line due to friction

G is pressure drop in evaporator

H is pressure drop in distributor and connecting tubes

I is pressure at the thermostatic valve outlet.

## Adds Cold Storage Rooms In Waynesboro Plant To Hold Fresh Food at 31°

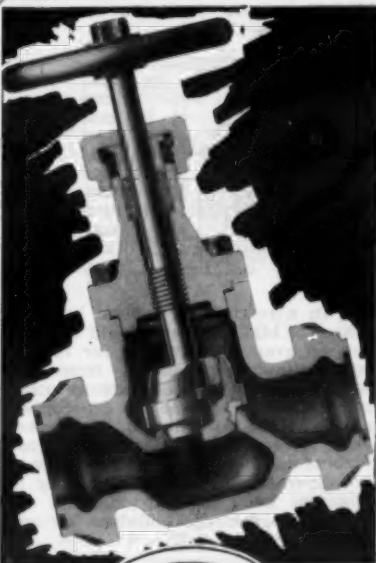
WAYNESBORO, Pa. — The Waynesboro Ice & Cold Storage recently completed an addition to its plant on Cleveland Ave., it was announced.

This comprises two rooms, the largest of which measures, in round numbers, 134 by 88 by 21 ft. high. The other room is 45 by 44 by 21 ft. high. Combined, they provide a total of 281,400 cu. ft.

The new storage rooms are designed for holding apples and other fresh foods. They have a combined capacity of 75,000 bushels.

These rooms are held at 31° F. by automatic controls. They are cooled with 2,790 lineal feet of 2-in. Frick "Prestfin" pipe. The fins are 7 in. square and are spaced on 1½-in. centers.

Both rooms are insulated with "Styrofoam," 4 in. being used on the floors and walls, and 6 in. on the ceiling, the company explained.



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## Typhoon Unveils '57 Line--

(Concluded from Page 1, Col. 2)

Over-all size of the economy model is 24 in. wide, 26 in. deep, and 66 in. high. Cooling capacity is listed as 2½ tons and shipping weight as 445 lbs. It can be installed for as low as \$1,000 using ductwork or plenums.

The model is described as a completely assembled package unit, ready to set in place and hook up to water and electricity. An electric range-type plug-in can be used on this unit, it was pointed out. Ductwork connection is on top of the unit.

Hermetic compressor is available with one or five-year warranty. "Corrosion-proof Admiralty metal condenser with multiple tube-in-tube design features greater heat transfer surface, uniform operation temperatures," the firm said.

According to Jobes, Prop-R-Temp is a true heat pump and differs considerably from a converted air conditioner in appearance and design.

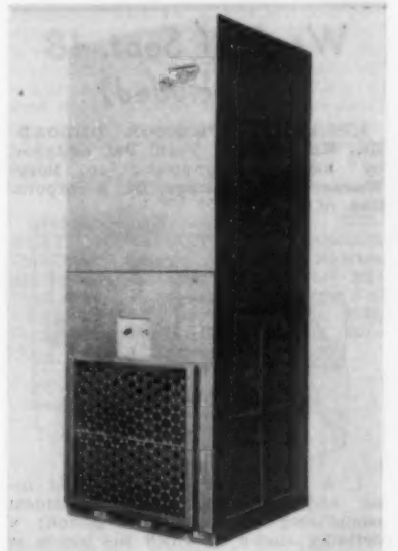
"It offers as standard equipment, Admiralty metal condensers and all-copper cooling and heating coils. New models are more compact and offer higher efficiency.

"A 1,000-sq. ft. house in the north or south can be heated and cooled for as low as \$10 a month average year-round with our water-to-air equipment."

Details on the various types of units were announced:

"Water-to-air models are available in sizes 2½ to 12 tons full hermetic, and 10 to 30 tons semi-hermetic. On full hermetic models the complete refrigeration chassis can be exchanged on the job in 30 minutes, and carries a five-year factory warranty.

"Air-to-air models are avail-



COMPLETELY assembled package unit, ready to set in place and hookup to water and electricity is Typhoon Heat Pump's 1957 heat pump which the company claims can be installed for as low as \$1,000.

able in 3 and 5-hp. models, now in production. Custom built air source heat pumps up to 20 hp. are currently available.

"Water-to-water models, producing warm and chilled water, are available in sizes 2½ to 40 tons.

A highly-competitive line of packaged water chillers was shown in sizes 2½ to 40 tons.

A highlight of the school was an evening open house party at Typhoon's new plant in Tampa where visitors were greeted by members of Tampa's Committee of 100 and Mayor Nuccio.

In another announcement, the company reported that Florida State Fair's Electrical Exposition at Tampa Jan. 29-Feb. 9 had "perfect climate," with Prop-R-Temp heat pumps heating or cooling automatically as temperature directed.



For dependable  
measurable  
performance

**DEAN**

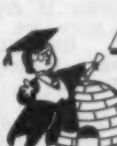
## GOLD PLATES

There's no "guesswork" when you use Dean Cold Plates. They'll always give you top operating efficiency. Ideal for ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, frosted food refrigerators, window displays, food counters, refrigerated transportation and subzero applications for industrial chilling.

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Any way you want them... that's the way Dean will "job-tailor" your plates for you. Consider the savings this means in time and money. Available in zinc metalized steel, stainless steel and other metals. In cylinders, U's, angles, tanks, etc. Write NOW for that special, made-to-order plate you need.

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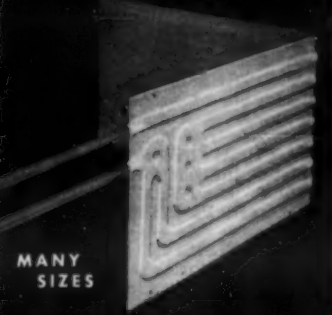


**DEAN**  
PRODUCTS, INC.

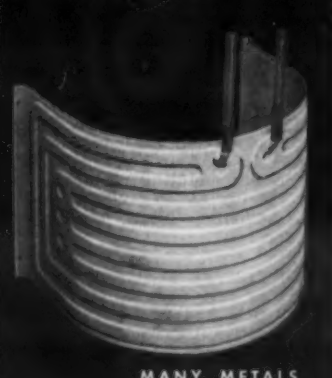
1042 DEAN STREET  
BROOKLYN 38, N. Y.  
STERLING 9-5400



MANY SHAPES



MANY SIZES



MANY METALS

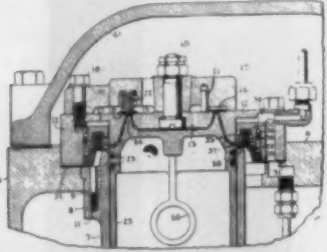
Choice territories now available for sales representation. Inquiries invited.



# PATENTS

Week of Sept. 18  
(Concluded)

2,763,425. **COMPRESSOR UNLOAD.** ER. Kautz Sahle, York, Pa., assignor, by mesne assignments, to Borg-Warner Corp., Chicago, Ill., a corporation of Illinois.



1. A compressor with combined inlet and unloading valve mechanism comprising a reciprocable piston; a cylinder sleeve in which the piston is reciprocable, the sleeve and piston enclosing a compressor working space, said sleeve affording an annular inlet to the working space and adjacent thereto an annular seat surface normal to the cylinder axis; a ring coaxially encircling said sleeve, guided to move axially relatively thereto and spaced therefrom to define an inlet passage leading to said annular inlet, said ring having a complementary annular seat surface also normal to the cylinder axis; an annular valve capable of seating on both said seat surfaces to close said inlet passage; and means for shifting said ring between two position, in the first of which the complementary annular seat surface is in plane with the seat surface on the sleeve, so that the valve can seat on both seat surfaces simultaneously, and in the second of which one of said seat surfaces is displaced in the direction of the cylinder axis and holds the

valve out of contact with the other seat surface.

## DESIGNS

178,810. **FROSTED FOOD DIVIDER DISPLAY RACK.** Lowell J. Schettler, Tomah, Wis., assignor to Reddi-Wip, Inc., St. Louis, Mo.



178,811. **REFRIGERATOR OR THE LIKE.** Robert W. Schler, Royal Oak, and Montgomery Perar, Huntington Woods, Mich., assignors to Whirlpool-Seeger Corp., St. Joseph, Mich.

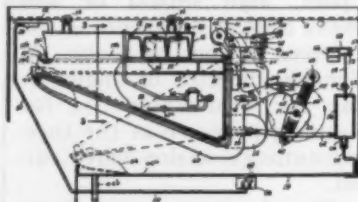


Week of Sept. 25

2,763,993. **ICE CUBE MANUFACTURING APPARATUS.** John R. Bayston, Encino, Calif., assignor to John R. Bayston, trustee, Icecrafter (Liquidating) Trust, Encino, Calif.

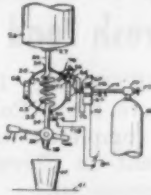
1. Ice cube freezing apparatus comprising an evaporator, a swinging water plate supported for movement into engagement with said evaporator for feeding water thereto and to a downwardly inclined ice discharge position, a water supply tank suspended from said water plate and including drainage means operative when said water plate assumes said discharge position, power driven

means for swinging said plate and tank into said engagement position or into said ice discharging position, a motor driven pump connected between said tank and said water plate for feeding



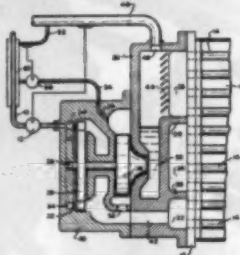
water to said plate during the freezing cycle, electric circuits for controlling the freezing and defrosting cycles and the recharging of said tank with water, a pilot tank connected to said water tank and operatively associated with said electric circuits to initiate recharging of said tank after a defrosting cycle and responsive to a predetermined maximum weight of water in said tank to terminate said recharging of said tank, and a check valve connected to said water plate and responsive to a predetermined pressure in said water plate to exhaust water from said tank to a predetermined minimum weight of water, whereby said tank may be charged with an amount of water in excess of that required to fill said evaporator with ice and said excessive supply of water may be drained from said tank when it assumes its ice discharge position.

2,763,994. **FLUID COOLING AND CARBONATING DEVICES.** Edward F. Chandler, New York, N. Y., assignor of thirty-three and one-third per cent to Peter Fries, Jr., New York, N. Y.



1. A fluid cooling and dispensing device comprising a housing having a chamber formed therein, with first and second openings in said chamber, a source of compressed gas in the nature of carbon dioxide and the like, first duct means connecting said first opening with said source of compressed gas for conducting gas to said chamber, porous diaphragm wall means interposed in said first opening so that said gas permeates through said porous wall means in expanding into said chamber, producing a cooling effect and lowering the temperature therein, porous second diaphragm wall means interposed in said second opening and providing escape means for some of said gas where present, a source of fluid to be cooled, second duct means connected to said source of fluid and extending through said chamber for conducting fluid therethrough, tap means connected to the outlet of said second duct means for delivering fluid therefrom, and control means for regulating the flow of said gas and said fluid, and for thus controlling the flow of cooled fluid and its temperature.

2,763,995. **REFRIGERATION CIRCULATION AND METHOD OF OIL RETURN.** Alvin B. Newton, Jackson, Mich., assignor to Acme Industries, Inc., Jackson, Mich.



1. In a refrigerant system having a source of high-pressure liquid refrigerant, an evaporator, means for recirculating liquid refrigerant from said source through said evaporator including a pump, a turbine for driving said pump, means for directing high-pressure liquid refrigerant against said turbine to drive the same and means for directing the turbine actuating refrigerant from said turbine into said evaporator for re-circulation by said pump.

HALF INCH WATER STARTS PUMP

SEE IT AT YOUR WHOLESALE  
FROM COAST TO COAST

NEWEST KESCO AUTOMATIC  
20 FOOT LIFT  
CONDENSATE PUMP

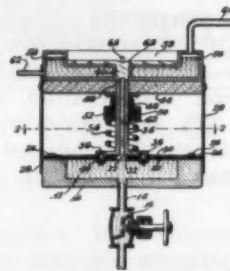
MONEY BACK  
GUARANTEE

KESCO  
PRODUCTS CORP.

Est. 1944  
Springfield Gardens 13  
New York

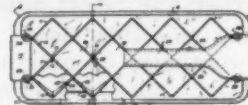


2,763,996. **ICE MAKING MACHINE AND METHOD OF HYDRAULICALLY HARVESTING ICE.** Gerald M. Lees, Chicago, Ill.



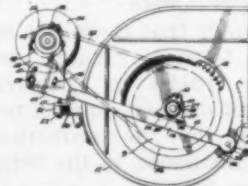
1. An ice making machine comprising an evaporator shell and means to circulate refrigerant therethrough to provide a freezing surface thereon, a water chamber receiving water slowly under pressure, a conduit permitting the flow of water from said water chamber to said freezing surface, the flow of water through said conduit being interrupted by the freezing of ice on said freezing surface, and a movable member actuated by increased pressure within said water chamber to break the bond between said ice and said freezing surface and to open the flow of water through said conduit.

2,763,997. **FREEZING TRAY.** Edward H. Roberts, Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Oct. 28, 1953, Serial No. 388,757. 1 Claim. (Cl. 62-108.5.)



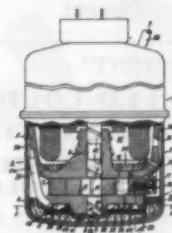
In combination, an ice tray having a floor and upstanding side and end walls, with said end walls being provided with outwardly extending flanges, a plurality of longitudinally resilient zigzag elements positioned in said tray and cooperating to form ice cube pockets therein, said elements extending between said end walls and normally resting on said floor and adjacent of said elements having alternately spaced apart and adjacent peaks whereby said pockets are formed between said elements, said elements adjacent said side walls of said ice tray having a diagonal strengthening crease upon each of the angled segments between said alternate peaks, a rigid member attached to said zigzag elements at their one ends and adapted to engage one of said flanges to detachably secure said elements to the associated of said end walls, a lever pivotally mounted on said undulated elements at their other ends, and a downward lip formed on said lever and adapted to engage the other of said flanges upon a movement of said lever, thereby to free said ice cubes from said pockets by both tilting and stretching said elements.

2,764,341. **BLOWER ASSEMBLY.** John R. Greiner, Marshalltown, Iowa, assignor to Lennox Industries, Inc.



1. A blower assembly comprising a blower having a driving shaft, a housing surrounding the blower having an air inlet and outlet therein, an electric motor for driving the blower, a drive means connecting the motor and the blower, a substantially U-shaped rigid frame member encompassing a portion of the blower housing, means for connecting the ends of the legs of the frame member to the blower housing, a bearing for each end of the blower shaft, opposed bearing supports for said bearings on the side legs of the frame member, a supporting structure for said motor, means for connecting the motor supporting structure to the cross leg of the frame member, and resilient means between the blower housing and the cross leg of the frame member for supporting the major portion of the weight of the motor, motor supporting structure, frame member and blower.

2,764,342. **NOISE DAMPING MUFFLER.** Raymond L. Dills, Erie, Pa., assignor to General Electric Co., a corporation of New York.



1. In a refrigerating unit, a sealed case including a sump, a compressor enclosed in said case and adapted to compress a mixture of vaporous refrigerant and oil, a muffler having spaces therein for receiving the exhaust from said compressor and reducing trans-

mission of sound to said case, and means providing communication between said muffler and said case for affording drainage of oil admixed with refrigerant into said sump, said muffler including an unbroken downwardly extending marginal rim on the outer periphery of the under side thereof, at least the lower edge of said rim being submerged in oil in said sump, said rim trapping refrigerant bubbles rising in said oil in said sump against substantially all of said under side of said muffler adjacent said exhaust receiving spaces thereby to absorb sound from said muffler and reduce further the transmission of sound to the case.

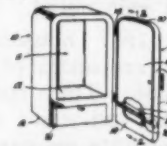
## DESIGNS

178,846. **DISPENSER CABINET FOR BULK MILK AND OTHER LIQUIDS.** Lannie F. Norris, Minneapolis, Minn., assignor to Norris Dispensers, Inc., Minneapolis, Minn.



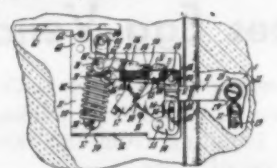
Week of October 2

2,764,785. **REFRIGERATOR DOOR CONSTRUCTION.** Charles E. Sulcek, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp.



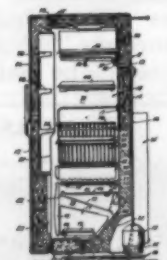
1. In a refrigerator cabinet construction, a refrigerator door comprising an outer door panel and an inner door panel mounted in a spaced-apart relationship, said outer door panel deflectable toward said inner door panel, a relatively soft sealing compound, baffle means mounted to said inner door panel and abutting the inner surface of said outer door panel for dividing the space between said inner door panel and said outer door panel into two compartments, said baffle means having a portion formed to render said baffle means resilient, whereby said outer door panel remains deflectable toward said inner door panel, said portion and the inner surface of said outer panel cooperating to contain and maintain said sealing compound between said baffle means and the inner surface of said outer panel.

2,764,874. **REFRIGERATOR DOOR FASTENER.** Verlos G. Sharpe, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich.



1. In a refrigerator or the like, a cabinet structure having a compartment therein provided with an access opening and a door structure adapted to close same, a closed refrigerating system associated with said cabinet structure including a refrigerant evaporator for cooling the interior of said compartment and an electrically operated refrigerant translating unit, an electric circuit detachably connected to a source of electric current and leading therefrom to said unit, fastening means for said door structure, said fastening means comprising a mechanical manually operable latch mechanism having means for holding said door locked in closed position, and thermostatic means responsive to disconnecting said detachable circuit from said source of electric current for rendering said manually operable latch mechanism ineffective to hold said door locked.

2,764,875. **HOUSEHOLD REFRIGERATORS OF THE TWO TEMPERATURE TYPE.** Leo G. Beckett, Henderson, Ky., and Edward B. Wolfert, Evansville, Ind., assignors, by mesne assignments, to Whirlpool-Seeger Corp., St. Joseph, Mich., a corporation of Delaware. Application Jan. 26, 1956, Serial No. 484,066. 14 Claims. (Cl. 62-103.)



1. In a household refrigerator, the combination of an insulated cabinet having an outer shell and an inner liner separated by insulation, and having a door opening closed by an insulated door, said liner having top, side, and rear walls defining a refrigerated

(Continued on next page)

# CLASSIFIED ADVERTISING

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## POSITIONS WANTED

**REFRIGERATION SERVICE** engineer 21 years' experience on all popular makes of commercial and industrial refrigeration and air conditioning. Now employed but desire change. Prefer South, Southeast, or Southwest. Full information on request. BOX A5740, Air Conditioning & Refrigeration News.

**AIR CONDITIONING**, refrigeration installation and design engineer. Eleven years' experience, design, estimating, layout, field installation supervision, trouble shooting. Self contained, centrifugal, central systems, heating. Complete calculations, plans, layouts. Seek desirable position with contractor or engineering firm, Los Angeles, California area. Resume, references upon request. Age 36, married. BOX A5742, Air Conditioning & Refrigeration News.

## POSITIONS AVAILABLE

**BLAST FREEZE** Corporation needs men capable of assisting independent food stores in merchandising on premise frozen red meats under an exclusive Blast Freeze franchise. Give complete information by letter to ROBERT R. AYRES, President, 10 Main Street, Park Ridge, Illinois.

**MANUFACTURERS' REPRESENTATIVES:** Territories available for experienced commercial refrigeration salesman to represent manufacturer of complete line of all temperature ranges in packaged machines. Write, giving personal details and background to: J. R. BEAN, Sales Manager, 2524 Brooklyn Road, Jackson, Michigan.

**WANTED: MECHANICAL** engineer with heating and air conditioning experience to head up heating department with jobber handling nationally known lines. Write to CLOWE & COWAN, INC., Amarillo, Texas, giving experience record.

**OPPORTUNITY FOR** men experienced in service and installation of Thermo King truck and trailer refrigeration. We are an authorized eastern service dealer. Also openings for men desiring to enter this field. Some knowledge of refrigeration, electric control and gasoline engines desirable. State age, experience and salary desired. BOX A5739, Air Conditioning & Refrigeration News.

**DISTRICT SALES Manager**—We need an aggressive, alert sales engineer who is thoroughly acquainted with commercial and industrial air conditioning and refrigeration equipment. The man selected would have as customers some of the industries largest companies and will be traveling throughout the Midwest. The position offers an excellent opportunity from a monetary standpoint plus the association with an organization that builds a quality line. Write giving full details of your background and experience to BOX A5741, Air Conditioning & Refrigeration News. All replies treated in confidence.

## EQUIPMENT WANTED

**WANTED: MANUFACTURERS** surplus, outdated or obsolete refrigeration items—expansion & water & shutoff valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash close-out basis, large or small quantity. Write or call: COMMERCIAL CONTROLS CO., 257 East 3rd Street, New York 9, N. Y. ORegon 3-7210.

**WE ARE** interested in receiving offers of refrigeration equipment and supplies at attractive prices. Wholesalers covering Northern Mexico and Pacific Coast. FRI-CAL-VEN, S. A., P. O. Box 1800, Monterrey, N. L.—Mexico.

## EQUIPMENT FOR SALE

**ARCTICAIRE** air conditioning equipment 2, 3 and 5 ton packaged water chillers, air or water cooled. Direct expansion air conditioning systems 2, 3 and 5 ton, air or water cooled, self contained and remote types. Write for literature and prices. ARCCO, MANUFACTURERS AGENTS, INC., Merchandise Mart Bldg., 2201 Grand Avenue, Kansas City, Missouri.

**24' BY 8' BY 32'** high tandem axle trailer with electric brakes, clearance, stop and directional lights. Built to haul up to 48' of display cases. Capacity five ton. Trailer 1½ ton. Can be hauled by car, pickup, or truck. Axles have wrap springs. Easy to handle. Will furnish photograph to interested party. HUFF REFRIGERATION CO., Highland, Michigan, Phone—Mutual 45665.

**NEW SILICA-GEL** driers complete with flare nuts. 14 cu. in.—¼" flare—\$1.91, 20 cu. in. ¼" flare—\$2.00, 20 cu. in.—½" flare—\$2.12, 33 cu. in.—¾" flare—\$2.94. Minimum order 10 driers. Orders of \$100.00 or more we pay freight. TECHNICAL RESEARCH CORP., 6735 Cahuenga Boulevard, North Hollywood, California.

**ATTENTION SERVICEMEN:** Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.



Floor plan of the 1st floor of the 'Kiln' building. The plan shows a large central hall with a fireplace, a kitchen, and several smaller rooms. The layout is detailed with dimensions and room labels.

This diagram shows an exploded view of a mechanical assembly. The main component is a cylindrical housing or pump body. Attached to it are several other parts, including a central shaft or piston rod, a valve or plunger, and various seals and gaskets. The parts are labeled with letters (A through Z) and numbers (1 through 10) to identify them. The diagram is a technical drawing, likely from a patent or a technical manual.

[illegible]

Fig. 1. Plan of the ship's hull, showing the layout of the hull, deck, and internal structures.

43



## Bundy Names O'Connell, Palms Vice Presidents, Ups Kendall, Bernthal

DETROIT—Election of two directors and the appointment of two new vice presidents headlined personnel changes announced by Wendell W. Anderson, Jr., vice president and general manager of Bundy Tubing Co. here.



P. A. O'Connell



W. F. Kendall

Named vice president in charge of sales was P. A. O'Connell, formerly general sales manager. C. L. Palms, Jr. becomes vice president in charge of industrial relations.

Elected to the board of directors were G. D. Baker, former vice president in charge of sales, and David Rust, who has been vice president in charge of industrial relations.

New general sales manager is W. F. Kendall. He has been with the company since 1940, except for four years spent with the U. S. Navy in the Pacific Theater.

A. F. Bernthal has been named advertising and sales development manager. Gordon Weller now is personnel director for the Detroit Div., 12345 E. Nine Mile Rd.

### 3 Big Producers Cut Copper Price to 34¢

NEW YORK CITY—Phelps Dodge Corp. recently cut copper prices 2 cents a pound to 34 cents and was immediately followed by Kennecott Copper Co. Anaconda Co., as was expected, then lowered its quotation to 34 cents also.

Custom smelters reduced their price for copper to 33 cents a pound—a 1-cent cut—but trade sources said sales at this new quotation were small, with consumers showing "little interest."

Copper supplies are now "adequate to meet demand," said Sir Ronald L. Prain, chairman of Rhodesian Selection Trust, Ltd. and Roan Antelope Copper Mines, Ltd., speaking in New York City. These producers cut the price charged British consumers for copper to 31¼ cents a pound.

Copper continued to decline in U. S. and foreign markets last week as supplies remained larger than demand. Consumers were reported to be "disappointed" by the 2-cent a pound reduction, saying the cut wasn't "deep enough."

### Remington Sales Up

AUBURN, N. Y.—Domestic orders for Remington room air conditioners for the first quarter of the current fiscal year were more than double what they were for the same period a year ago. The quarter ended on Jan. 31.

(Concluded from Page 1, Col. 3)

Engineers suggest that sometimes the agents (themselves usually engineers) go too far in drawing up plans for a contractor or owner.

Jobbers are often at odds with the agents over who should sell what. Both agree that small items, such as pipe fittings, are the province of the jobber and that large units, such as a 100-ton air conditioner, can best be handled by an agent. But they clash over the big lines of equipment in between, it was noted.

In sounding off on their complaints, contractors revealed they are often beset by a feeling of uncertainty resulting from "the generally unstabilized situation throughout the industry."

In addition to the vertical areas of conflict, there's the

problem of horizontal competition from other members of the same group.

This, it is claimed, has resulted in "profit-ruining price cutting."

Several indicated they agreed with the comment of one agent that the profit margin "has been going to pot during the last five or six years." Competition is said to be rougher in the southwest than perhaps any other section due to the tremendous influx of industry representatives to get a share of the southland's booming business.

However, no one is asking that regulations be passed to solve industry problems. Industry representatives took a philosophical view of their plight, realizing it's one of the prices they pay for operating in a free economy.

## Silco Products To Move Plant--

(Concluded from Page 1, Col. 2)

nounced previously in the Jan. 14 issue of the NEWS, ends 10 years of operation in Minneapolis, Cook said. The company manufactures evaporative condensers, cooling towers, air washers, dehumidifiers, air conditioning units, and coils.

"The move is necessary to put our customers in a better position from a competitive standpoint," Cook explained.

"Fully 90% of all shipments made by us are to points throughout the eastern and southern part of the country. At Fountain Inn, we will be closer to the source of most of our raw material and we will be much closer to our points of distribution."

"Both of these will not only show a real saving to our customers on freight charges, but will make it possible for us to

get shipments to them more rapidly than before.

"Our present freight costs have run close to 10% of the value of our shipments, a prime reason why this move is not only advisable but absolutely necessary."

At Fountain Inn, Silco will occupy a modern plant built especially for its operations, which, according to Cook, should reduce production costs considerably.

"The new plant will be of ample size for our expected volume of business and will be so constructed that unlimited expansion is possible. It will be equipped with modern machines and completely air conditioned for the comfort of the employees," he said.

Key personnel are moving from Minneapolis. Other employees will be hired locally.

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